

SERFF Tracking Number: ARKS-125925818 State: Arkansas
Filing Company: 00006 - INSURANCE SERVICES OFFICE, INC. State Tracking Number: #106381 \$50
Company Tracking Number: GL-2008-IALL1
TOI: 17.0 Other Liability-Occ/Claims Made Sub-TOI: 17.0001 Commercial General Liability
Product Name: n/a
Project Name/Number: /

Filing at a Glance

Company: 00006 - INSURANCE SERVICES OFFICE, INC.

Product Name: n/a SERFF Tr Num: ARKS-125925818 State: Arkansas
TOI: 17.0 Other Liability-Occ/Claims Made SERFF Status: Closed State Tr Num: #106381 \$50
Sub-TOI: 17.0001 Commercial General Liability Co Tr Num: GL-2008-IALL1 State Status: Fees verified and received
Filing Type: Rule Co Status: Reviewer(s): Betty Montesi, Edith Roberts
Author: Disposition Date: 12/31/2008
Date Submitted: 12/01/2008 Disposition Status: Filed
Effective Date Requested (New): Effective Date (New):
Effective Date Requested (Renewal): Effective Date (Renewal):
State Filing Description:

General Information

Project Name: Status of Filing in Domicile:
Project Number: Domicile Status Comments:
Reference Organization: Reference Number:
Reference Title: Advisory Org. Circular:
Filing Status Changed: 12/31/2008
State Status Changed: 12/31/2008 Deemer Date:
Corresponding Filing Tracking Number:
Filing Description:

Company and Contact

Filing Contact Information

NA NA, NA@NA.com
NA (123) 555-4567 [Phone]
NA, AR 00000

| | | | |
|--------------------------|---|------------------------|--------------------------------------|
| SERFF Tracking Number: | ARKS-125925818 | State: | Arkansas |
| Filing Company: | 00006 - INSURANCE SERVICES OFFICE, INC. | State Tracking Number: | #106381 \$50 |
| Company Tracking Number: | GL-2008-IALLI | | |
| TOI: | 17.0 Other Liability-Occ/Claims Made | Sub-TOI: | 17.0001 Commercial General Liability |
| Product Name: | n/a | | |
| Project Name/Number: | / | | |

Filing Company Information

| | | |
|---|-------------------------|-----------------------------|
| 00006 - INSURANCE SERVICES OFFICE, INC. | CoCode: 6 | State of Domicile: Arkansas |
| No Address | Group Code: | Company Type: |
| City, AR 99999 | Group Name: | State ID Number: |
| (999) 999-9999 ext. [Phone] | FEIN Number: 99-9999999 | |
| | ----- | |

| | | | |
|---------------------------------|--|-------------------------------|---|
| <i>SERFF Tracking Number:</i> | <i>ARKS-125925818</i> | <i>State:</i> | <i>Arkansas</i> |
| <i>Filing Company:</i> | <i>00006 - INSURANCE SERVICES OFFICE, INC.</i> | <i>State Tracking Number:</i> | <i>#106381 \$50</i> |
| <i>Company Tracking Number:</i> | <i>GL-2008-IALLI</i> | | |
| <i>TOI:</i> | <i>17.0 Other Liability-Occ/Claims Made</i> | <i>Sub-TOI:</i> | <i>17.0001 Commercial General Liability</i> |
| <i>Product Name:</i> | <i>n/a</i> | | |
| <i>Project Name/Number:</i> | <i>/</i> | | |

Filing Fees

| | |
|------------------|----|
| Fee Required? | No |
| Retaliatory? | No |
| Fee Explanation: | |
| Per Company: | No |

SERFF Tracking Number: ARKS-125925818 State: Arkansas
Filing Company: 00006 - INSURANCE SERVICES OFFICE, INC. State Tracking Number: #106381 \$50
Company Tracking Number: GL-2008-IALLI
TOI: 17.0 Other Liability-Occ/Claims Made Sub-TOI: 17.0001 Commercial General Liability
Product Name: n/a
Project Name/Number: /

Correspondence Summary

Dispositions

| Status | Created By | Created On | Date Submitted |
|--------|---------------|------------|----------------|
| Filed | Edith Roberts | 12/31/2008 | 12/31/2008 |

SERFF Tracking Number: *ARKS-125925818* *State:* *Arkansas*
Filing Company: *00006 - INSURANCE SERVICES OFFICE, INC.* *State Tracking Number:* *#106381 \$50*
Company Tracking Number: *GL-2008-IALLI*
TOI: *17.0 Other Liability-Occ/Claims Made* *Sub-TOI:* *17.0001 Commercial General Liability*
Product Name: *n/a*
Project Name/Number: */*

Disposition

Disposition Date: 12/31/2008

Effective Date (New):

Effective Date (Renewal):

Status: Filed

Comment:

Rate data does NOT apply to filing.

SERFF Tracking Number: ARKS-125925818 State: Arkansas
Filing Company: 00006 - INSURANCE SERVICES OFFICE, INC. State Tracking Number: #106381 \$50
Company Tracking Number: GL-2008-IALLI
TOI: 17.0 Other Liability-Occ/Claims Made Sub-TOI: 17.0001 Commercial General Liability
Product Name: n/a
Project Name/Number: /

| Item Type | Item Name | Item Status | Public Access |
|---------------------|----------------|-------------|---------------|
| Supporting Document | ARKS-125925818 | | Yes |

| | | | |
|---------------------------------|--|-------------------------------|---|
| <i>SERFF Tracking Number:</i> | <i>ARKS-125925818</i> | <i>State:</i> | <i>Arkansas</i> |
| <i>Filing Company:</i> | <i>00006 - INSURANCE SERVICES OFFICE, INC.</i> | <i>State Tracking Number:</i> | <i>#106381 \$50</i> |
| <i>Company Tracking Number:</i> | <i>GL-2008-IALLI</i> | | |
| <i>TOI:</i> | <i>17.0 Other Liability-Occ/Claims Made</i> | <i>Sub-TOI:</i> | <i>17.0001 Commercial General Liability</i> |
| <i>Product Name:</i> | <i>n/a</i> | | |
| <i>Project Name/Number:</i> | <i>/</i> | | |

Rate Information

Rate data does NOT apply to filing.

SERFF Tracking Number: ARKS-125925818 State: Arkansas
Filing Company: 00006 - INSURANCE SERVICES OFFICE, INC. State Tracking Number: #106381 \$50
Company Tracking Number: GL-2008-IALLI
TOI: 17.0 Other Liability-Occ/Claims Made Sub-TOI: 17.0001 Commercial General Liability
Product Name: n/a
Project Name/Number: /

Supporting Document Schedules

Review Status:

Satisfied -Name: ARKS-125925818

12/31/2008

Comments:

Attachments:

ARKS-125925818.pdf
ARKS-125925818-1.pdf
ARKS-125925818-2.pdf
ARKS-125925818-3.pdf
ARKS-125925818-4.pdf
ARKS-125925818-5.pdf

ARKS-125925818

ER

106381
50.00



2828 E. TRINITY MILLS ROAD SUITE 150 CARROLLTON, TX 75006
TEL: (214) 390-1825 FAX: (214) 390-1975

Kenneth J. Hill, CPCU
Regional Director, Government Relations

November 25, 2008

Honorable Julie Benafield Bowman
Commissioner of Insurance
Arkansas Insurance Department
1200 West Third Street
Little Rock, Arkansas 72201-1904

FILED

DEC 31 2008

**PROPERTY AND CASUALTY
ARKANSAS INSURANCE DEPT.**

Attention: William R. Lacy, Director
Property and Casualty Division

+ 0.5%

RE: Insurance Services Office, Inc.
GL 2008-IALL1
General Liability Increased Limit Factors
REFERENCE FILING
State of Arkansas

Dear Mr. Lacy:

We hereby file the enclosed advisory reference document.

ISO does not establish an effective date for General Liability rules revisions in Arkansas. Each insurer that elects to utilize this revision is responsible for determining its own effective date and complying with any applicable regulatory requirements. We will distribute this material to our participating insurers and update our electronic deliveries under cover of a Notice bearing a date of January 2009, or the earliest possible subsequent date following your acknowledgement.

Please return an acknowledged copy of this cover letter for our records. An addressed, stamped envelope is enclosed for your convenience. We have also included an additional copy of this letter and envelope; we request that you return it now with a "received" stamp to confirm that you have received the filing.

Very truly yours,

Donald J. Beckel, CPCU, ARM
Assistant Regional Manager
Government Relations

DJB:dlb
Encl.

RECEIVED

DEC 01 2008

**PROPERTY AND CASUALTY DIVISION
ARKANSAS INSURANCE DEPARTMENT**

Property & Casualty Transmittal Document

| | | | | | | | | | | | | | | |
|---|---|---------------------------------|-------------|-----------------|---------------------------------------|------------------------------|--------------|--|------------------|--|--------------------|--------------------|------------------|--|
| 1. Reserved for Insurance Dept. Use Only | 2. Insurance Department Use only <table style="width:100%; border-collapse: collapse;"> <tr><td style="border-bottom: 1px solid black;">a. Date the filing is received:</td></tr> <tr><td style="border-bottom: 1px solid black;">b. Analyst:</td></tr> <tr><td style="border-bottom: 1px solid black;">c. Disposition:</td></tr> <tr><td style="border-bottom: 1px solid black;">d. Date of disposition of the filing:</td></tr> <tr><td style="border-bottom: 1px solid black;">e. Effective date of filing:</td></tr> <tr> <td style="border-bottom: 1px solid black; width:50%;">New Business</td> <td style="border-bottom: 1px solid black; width:50%;"></td> </tr> <tr> <td style="border-bottom: 1px solid black;">Renewal Business</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr><td style="border-bottom: 1px solid black;">f. State Filing #:</td></tr> <tr><td style="border-bottom: 1px solid black;">g. SERFF Filing #:</td></tr> <tr> <td style="border-bottom: 1px solid black;">h. Subject Codes</td> <td style="border-bottom: 1px solid black;"></td> </tr> </table> | a. Date the filing is received: | b. Analyst: | c. Disposition: | d. Date of disposition of the filing: | e. Effective date of filing: | New Business | | Renewal Business | | f. State Filing #: | g. SERFF Filing #: | h. Subject Codes | |
| a. Date the filing is received: | | | | | | | | | | | | | | |
| b. Analyst: | | | | | | | | | | | | | | |
| c. Disposition: | | | | | | | | | | | | | | |
| d. Date of disposition of the filing: | | | | | | | | | | | | | | |
| e. Effective date of filing: | | | | | | | | | | | | | | |
| New Business | | | | | | | | | | | | | | |
| Renewal Business | | | | | | | | | | | | | | |
| f. State Filing #: | | | | | | | | | | | | | | |
| g. SERFF Filing #: | | | | | | | | | | | | | | |
| h. Subject Codes | | | | | | | | | | | | | | |


| | |
|----------------------|---------------------|
| 3. Group Name | Group NAIC # |
| | |

| 4. Company Name(s) | Domicile | NAIC # | FEIN # | State # |
|---------------------------------|----------|--------|------------|---------|
| Insurance Services Office, Inc. | DE | | 13-3131412 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | |
|-----------------------------------|---------------|
| 5. Company Tracking Number | GL-2008-IALL1 |
|-----------------------------------|---------------|

Contact Info of Filer(s) or Corporate Officer(s) [include toll-free number]

| 6. Name and address | Title | Telephone #s | FAX # | e-mail |
|--|------------------------------|----------------------------|----------------|-----------------|
| Donald J. Beckel Insurance Services Office, Inc. 2828 E. Trinity Mills Rd., Ste. 150 Carrollton, TX 75006 | Asst. Regional Manager | (214) 390-1825 Ext. 224 | (214) 390-1975 | DBECKEL@iso.com |
| | | | | |

| | |
|--|--|
| 7. Signature of authorized filer |  |
| 8. Please print name of authorized filer | Donald J. Beckel |

RECEIVED

Filing information (see General Instructions for descriptions of these fields)

| | | |
|--|--|-------------------|
| 9. Type of Insurance (TOI) | 17 | 1 DEC 01 2008 |
| 10. Sub-Type of Insurance (Sub-TOI) | 17.0001 | |
| 11. State Specific Product code(s)(if applicable)[See State Specific Requirements] | PROPERTY AND CASUALTY DIVISION ARKANSAS INSURANCE DEPARTMENT | |
| 12. Company Program Title (Marketing title) | General Liability | |
| 13. Filing Type | <input type="checkbox"/> Rate/Loss Cost <input checked="" type="checkbox"/> Rules <input type="checkbox"/> Rates/Rules <input type="checkbox"/> Forms <input type="checkbox"/> Combination Rates/Rules/Forms <input type="checkbox"/> Withdrawal <input type="checkbox"/> Other (give description) | |
| 14. Effective Date(s) Requested | New: 1/1/2009 | Renewal: 1/1/2009 |
| 15. Reference Filing? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 16. Reference Organization (if applicable) | Not Applicable | |
| 17. Reference Organization # & Title | Not Applicable | |
| 18. Company's Date of Filing | 11/25/08 | |
| 19. Status of filing in domicile | <input checked="" type="checkbox"/> Not Filed <input type="checkbox"/> Pending <input type="checkbox"/> Authorized <input type="checkbox"/> Disapproved | |

Property & Casualty Transmittal Document---

| | | |
|------------|--|---------------|
| 20. | This filing transmittal is part of Company Tracking # | GL-2008-IALL1 |
|------------|--|---------------|

| | |
|------------|--|
| 21. | Filing Description [This area can be used in lieu of a cover letter or filing memorandum and is free-form text] |
|------------|--|

General Liability Increased Limits filing for Premises/Operations and Products/Completed Operations.

| | |
|------------|---|
| 22. | Filing Fees (Filer must provide check # and fee amount if applicable) [If a state requires you to show how you calculated your filing fees, place that calculation below] |
|------------|---|

Check #:

106381

Amount:

\$50.00

Refer to each state's checklist for additional state specific requirements or instructions on calculating fees.

***Refer to each state's checklist for additional state specific requirements (i.e. # of additional copies required, other state specific forms, etc.)

RATE/RULE FILING SCHEDULE

(This form must be provided ONLY when making a filing that includes rate-related items such as Rate; Rule; Rate & Rule; Reference; Loss Cost; Loss Cost & Rule or Rate, etc.)

(Do not refer to the body of the filing for the component/exhibit listing, unless allowed by state.)

| | | |
|----|---|---------------|
| 1. | This filing transmittal is part of Company Tracking # | GL-2008-IALL1 |
|----|---|---------------|

| | | |
|----|--|--|
| 2. | This filing corresponds to form filing number (Company tracking number of form filing, if applicable) | |
|----|--|--|

☒ Rate Increase

☐ Rate Decrease

☐ Rate Neutral (0%)

| | | |
|----|---|------------|
| 3. | Filing Method (Prior Approval, File & Use, Flex Band, etc.) | File & Use |
|----|---|------------|

| 4a. Rate Change by Company (As Proposed) | | | | | | | |
|--|--|-----------------------|---|--|----------------------------------|-----------------------------------|-----------------------------------|
| Company Name | Overall % Indicated Change (when applicable) | Overall % Rate Impact | Written premium change for this program | # of policyholders affected for this program | Written premium for this program | Maximum % Change (where required) | Minimum % Change (where required) |
| Insurance Services Office, Inc. | +0.5% | +0.5% | N/A | N/A | N/A | +6.3% | -11.0% |
| | | | | | | | |

| 4b. Rate Change by Company (As Accepted) For State Use Only | | | | | | | |
|---|--|-----------------------|---|--|----------------------------------|------------------|------------------|
| Company Name | Overall % Indicated Change (when applicable) | Overall % Rate Impact | Written premium change for this program | # of policyholders affected for this program | Written premium for this program | Maximum % Change | Minimum % Change |
| | | | | | | | |
| | | | | | | | |

| 5. Overall Rate Information (Complete for Multiple Company Filings only) | | | |
|--|---|-------------|-----------|
| | | COMPANY USE | STATE USE |
| 5a. | Overall percentage rate indication (when applicable) | N/A | |
| 5b. | Overall percentage rate impact for this filing | N/A | |
| 5c. | Effect of Rate Filing – Written premium change for this program | N/A | |
| 5d. | Effect of Rate Filing – Number of policyholders affected | N/A | |

| | | |
|----|---|------------|
| 6. | Overall percentage of last rate revision | +0.9% |
| 7. | Effective Date of last rate revision | 7/1/2007 |
| 8. | Filing Method of Last filing (Prior Approval, File & Use, Flex Band, etc.) | File & Use |

| 9. | Rule # or Page # Submitted for Review | Replacement or Withdrawn? | Previous state filing number, if required by state |
|----|---------------------------------------|---|--|
| 01 | Rule 56.B.1., 56.B.2., 56.B.3. | <input type="checkbox"/> New <input checked="" type="checkbox"/> Replacement <input type="checkbox"/> Withdrawn | |
| 02 | Rule 56.B.4., 56.B.5., 56.B.6. | <input type="checkbox"/> New <input checked="" type="checkbox"/> Replacement <input type="checkbox"/> Withdrawn | |
| 03 | | <input type="checkbox"/> New <input type="checkbox"/> Replacement <input type="checkbox"/> Withdrawn | |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

GL-2008-IALL1

EXECUTIVE SUMMARY

PURPOSE

This document:

- revises increased limit factors for all Premises/Operations Liability and Products/Completed Operations Liability classes. These increased limit factors represent a +2.5% change on average from the Premises/Operations increased limit factors currently in effect and a -3.1% change on average from the Products/Completed Operations increased limit factors currently in effect. The General Liability combined effect is +0.5%.
- provides the analyses used to derive these increased limit factors.

DEFINITION OF
INCREASED
LIMIT FACTORS

We publish liability loss costs at the basic limit. The basic limit for General Liability is \$100,000/\$200,000 (occurrence/aggregate). The loss cost for a given policy limit is the product of the basic limit loss cost and the increased limit factor for that policy limit.

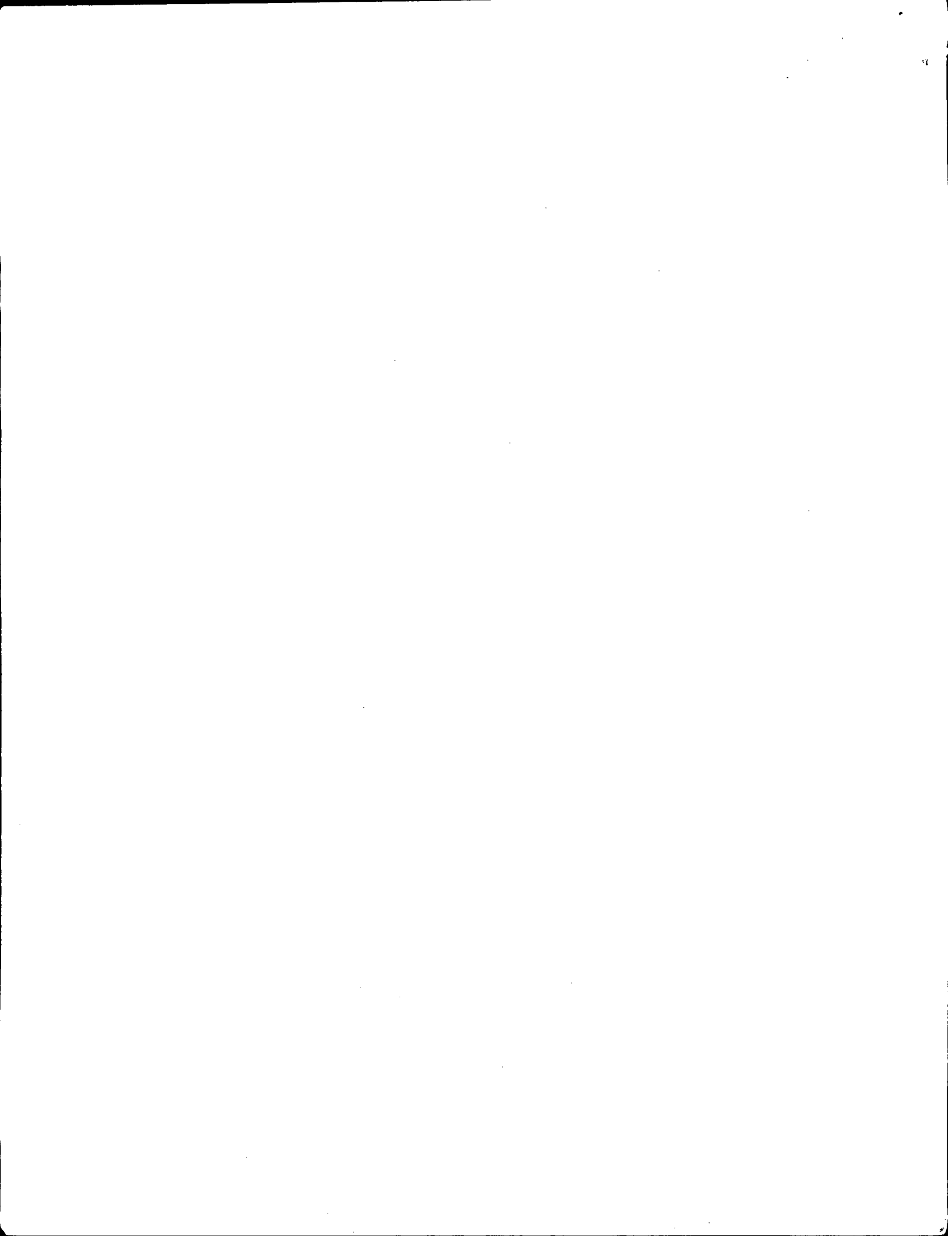
An increased limit factor is the ratio of two sums. The numerator is the cost to the insurer of writing a policy at the desired limit, including the average prospective indemnity, all loss adjustment expense, and the risk load. The denominator is the sum of the same quantities at the basic limit. The average filed prospective indemnity reflects per occurrence and aggregate limits.

INCREASED
LIMIT FACTOR
CHANGES

The statewide increased limit factor changes are:

| Premises/Operations | | | Products/Completed Operations | | |
|----------------------------|------------------|--------------|-------------------------------|------------------|--------------|
| | <u>Indicated</u> | <u>Filed</u> | | <u>Indicated</u> | <u>Filed</u> |
| Table 1 | +5.0% | +5.0% | Table A | +2.7% | +2.7% |
| Table 2 | +1.9% | +1.9% | Table B | -3.0% | -3.0% |
| Table 3 | <u>+2.1%</u> | <u>+2.1%</u> | Table C | <u>-5.3%</u> | <u>-5.3%</u> |
| TOTAL | +2.5% | +2.5% | | -3.1% | -3.1% |
| General Liability Combined | | | | <u>Indicated</u> | <u>Filed</u> |
| | | | | +0.5% | +0.5% |

5



INCREASED LIMIT FACTORS
GENERAL LIABILITY

INCREASED
LIMIT FACTOR
CHANGES
(continued)

The overall General Liability change of +0.5% is based on a comparison of the average indicated and current General Liability increased limit factors. For the purpose of this calculation, the average General Liability increased limit factors are a weighted-average of the overall Premises/Operations and Products/Completed Operations factors. The state group basic limit loss weights used are 0.6634 and 0.3366 for Premises/Operations and Products/Completed Operations, respectively.

In this filing, the filed factors are the indicated factors.

INCREASED
LIMITS TABLES

We group classifications with similar increased limits experience into increased limits tables. Both Premises/Operations and Products/Completed Operations have three tables corresponding with low, medium, and high loss severity. The tables are 1, 2, and 3 for Premises/Operations and A, B, and C for Products/Completed Operations.

PRIOR ISO
REVISIONS

The most recent Premises/Operations increased limits revision is:

Filing GL-2007-IALL1

Date
Implemented 7/2007

Premises/Operations Changes

| | |
|-------------|-------|
| Indicated | +0.8% |
| Filed | +0.8% |
| Implemented | +0.8% |

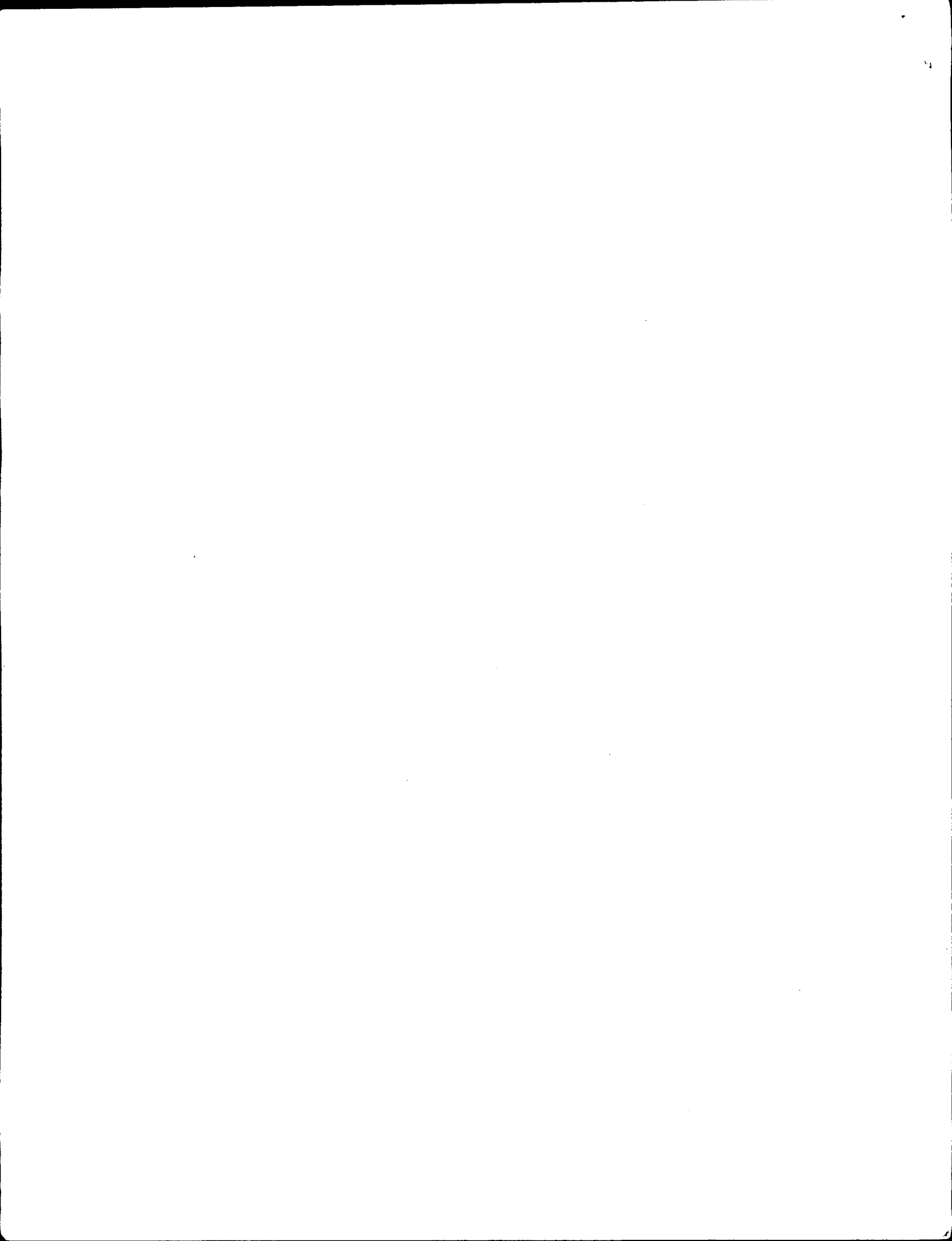
The most recent Products/Completed Operations increased limits revision is:

Filing GL-2007-IALL1

Date
Implemented 7/2007

Products/Completed Operations Changes

| | |
|-------------|-------|
| Indicated | +1.3% |
| Filed | +1.3% |
| Implemented | +1.3% |



INCREASED LIMIT FACTORS
GENERAL LIABILITY

RISK LOAD
PROCEDURE

The increased limit factors in this document incorporate a procedure for reflecting the increased risk or variation in experience associated with higher limit policies in the increased limits ratemaking formula. For all General and Commercial Auto Liability tables, this procedure generates increased limit factors that are on average (across all state groups) 6.0% higher than the factors would be if calculated without risk load. For this state group, the indicated increased limit factors are on average 4.9% higher (for Premises/Operations) and 10.6% higher (for Products/Completed Operations) than such factors would be if calculated without risk load.

HISTORICAL
SOURCE DATA

For this document, we used the following data:

- Experience from occurrence-coverage policies for risks subject to Premises/Operations and Products/Completed Operations increased limits tables as reported to ISO by companies that filed detailed statistics. Experience for risks reported in the ISO Annual Call for Excess and Umbrella Policy Claims supplements primary data for pricing higher policy limits. We now also include excess and umbrella data reported under the Commercial Statistical Plan (starting with the 2008 review), to add greater credibility to higher layer analysis.
- Experience for accident years ending December 31, 1993 to December 31, 2006, which were settled during calendar years 2002 to 2006. For Excess and Umbrella data, the 2008 GL indications reflect thirteen calendar years of paid settled data in order to enhance credibility at higher layers.

Please note that for Premises/Operations, we review the data by state or state group. Only the largest states have sufficient volume to be reviewed individually. We have grouped all other states based on an analysis of their historical distributions. For certain calculations we use multistate experience.

We reviewed Arkansas in State Group B. This group consists of sixteen small and medium-sized states with similar historical loss distributions.

For Products/Completed Operations, we continue to review the data on a multistate basis. This is because the data is sparser and the loss exposure is more likely to encompass multiple states.

Also, overall and by-table indicated changes are calculated using state group weights. For consistency, both Premises/Operations and Products/Completed Operations use state group weights.

EFFECT ON
MANUAL PAGES

Upon implementation of this filing, we will publish revised manual pages of Premises/Operations and Products/Completed Operations increased limit factors in Division Six of the Commercial Lines Manual. The revised increased limit factors will appear in Rule 56 as Tables 56.B.1., 56.B.2., 56.B.3., 56.B.4., 56.B.5. and 56.B.6.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

COMPANY
DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing increased limit factors are appropriate. We have included within this document the information upon which ISO relied in order to enable companies to make such independent judgments.

The data underlying the enclosed material comes from companies reporting to ISO. Therefore, the ISO statistical database is much larger than any individual company's. A broader database enhances the validity of the ratemaking analysis. At the same time, an individual company may benefit from a comparison of its own experience to the aggregate ISO experience and may reach valid conclusions with respect to the manner in which its own costs can be expected to differ from ISO's projections based on the aggregate data.

Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate its own experience in order to determine whether the increased limit factors developed by ISO are appropriate for its use.

This material has been developed exclusively by the staff of ISO.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

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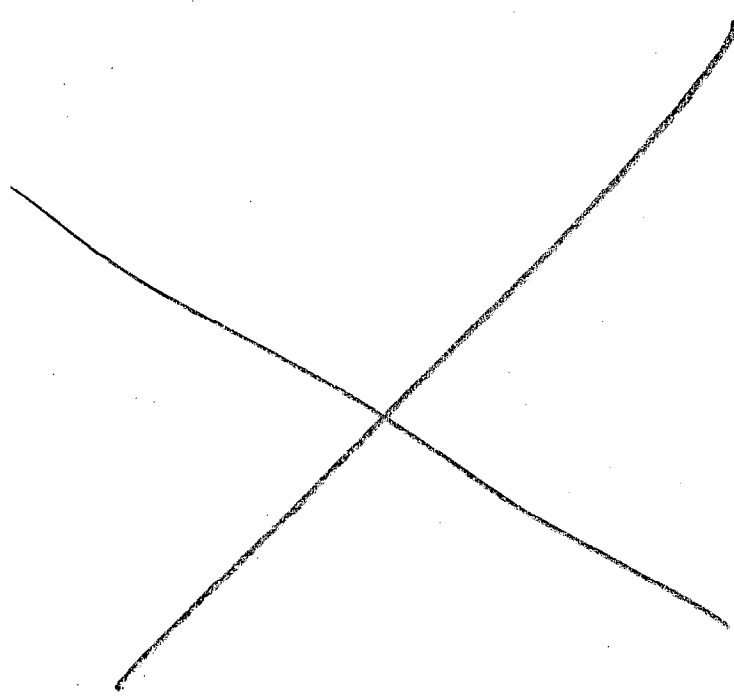
| | |
|---|----|
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| | |
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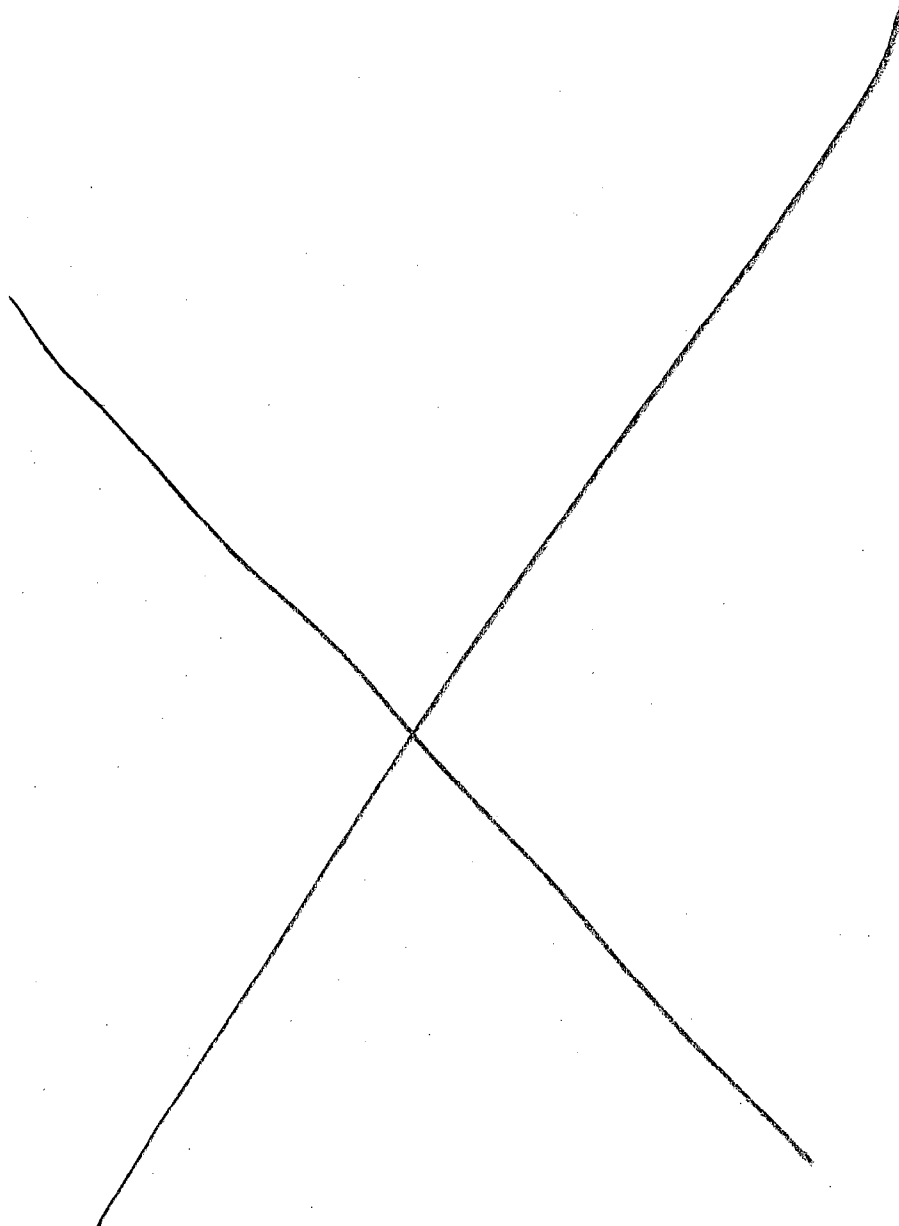
| | |
|---|-------|
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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION A - SCOPE OF REVISION

| | |
|---|--------|
| Summary of Increased Limit Factor Changes | A2-A4 |
| Revised Increased Limit Factors | A5-A11 |



INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

Changes By Table and in Total

The following shows the average indicated and filed changes for risks in each Table. The changes shown here are for policies that are subject to occurrence limits, but not annual aggregate limits. These indicated summary changes can also be found in Section G.

Premises/Operations

| <u>Table</u> | <u>Indicated Change</u> | <u>Filed Change</u> |
|--------------|-------------------------|---------------------|
| 1 | 5.0% | 5.0% |
| 2 | 1.9% | 1.9% |
| 3 | 2.1% | 2.1% |
| TOTAL | 2.5% | 2.5% |

Products/Completed Operations

| <u>Table</u> | <u>Indicated Change</u> | <u>Filed Change</u> |
|--------------|-------------------------|---------------------|
| A | 2.7% | 2.7% |
| B | -3.0% | -3.0% |
| C | -5.3% | -5.3% |
| TOTAL | -3.1% | -3.1% |

General Liability Combined

| <u>Indicated Change</u> | <u>Filed Change</u> |
|-------------------------|---------------------|
| +0.5% | +0.5% |

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

Comparison of Current and Revised Increased Limit Factors

The following compares the current and revised occurrence/aggregate increased limit factors for a sample of policy limits:

| <u>Premises/Operations Liability</u> | | | | |
|--------------------------------------|----------------------------|--------------------------|--------------------------|-----------------|
| | | (1) | (2) | (3) |
| | Policy Limit (\$,000) | Current Factor | Revised Factor | [(2)-(1)] |
| | (Occurrence/ Aggregate) | (100/200 Basic Limit) | (100/200 Basic Limit) | (1) % Change |
| <u>Table</u> | | | | |
| 1 | 300/600 | 1.19 | 1.21 | 1.7% |
| | 500/1000 | 1.27 | 1.31 | 3.1% |
| | 1000/2000 | 1.35 | 1.42 | 5.2% |
| | 2000/4000 | 1.46 | 1.54 | 5.5% |
| 2 | 300/600 | 1.26 | 1.28 | 1.6% |
| | 500/1000 | 1.40 | 1.42 | 1.4% |
| | 1000/2000 | 1.59 | 1.62 | 1.9% |
| | 2000/4000 | 1.79 | 1.84 | 2.8% |
| 3 | 300/600 | 1.31 | 1.32 | 0.8% |
| | 500/1000 | 1.49 | 1.51 | 1.3% |
| | 1000/2000 | 1.76 | 1.80 | 2.3% |
| | 2000/4000 | 2.06 | 2.10 | 1.9% |

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUMMARY OF INCREASED LIMIT FACTOR CHANGES

Products/Completed Operations Liability

| | | (1) | (2) | (3) |
|--------------|----------------------------|--------------------------|--------------------------|-----------------|
| | Policy Limit (\$,000) | Current Factor | Revised Factor | [(2)-(1)] |
| | (Occurrence/ Aggregate) | (100/200 Basic Limit) | (100/200 Basic Limit) | (1) % Change |
| <u>Table</u> | | | | |
| A | 300/600 | 1.19 | 1.21 | 1.7% |
| | 500/1000 | 1.29 | 1.31 | 1.6% |
| | 1000/2000 | 1.43 | 1.46 | 2.1% |
| | 2000/4000 | 1.58 | 1.63 | 3.2% |
| B | 300/600 | 1.30 | 1.28 | -1.5% |
| | 500/1000 | 1.46 | 1.43 | -2.1% |
| | 1000/2000 | 1.69 | 1.64 | -3.0% |
| | 2000/4000 | 1.97 | 1.89 | -4.1% |
| C | 300/600 | 1.42 | 1.38 | -2.8% |
| | 500/1000 | 1.67 | 1.60 | -4.2% |
| | 1000/2000 | 2.04 | 1.93 | -5.4% |
| | 2000/4000 | 2.47 | 2.28 | -7.7% |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

REVISED INCREASED LIMIT FACTORS

Pages A-6 to A-8 display the revised Premises/Operations increased limit factors as they will appear in Division Six of the Commercial Lines Manual, for Increased Limits Tables 1, 2, and 3 (Tables 56.B.1., 56.B.2., and 56.B.3., respectively). Pages A-9 to A-11 display the revised Products/Completed Operations increased limit factors as they will appear in the Commercial Lines Manual, for Increased Limits Tables A, B, and C (Tables 56.B.4., 56.B.5., and 56.B.6., respectively). All factors are relative to the basic limit of \$100,000 per occurrence/\$200,000 aggregate.

To generate these occurrence/aggregate increased limit factors, we begin with the calculation of indicated increased limit factors, displayed on pages B-8 to B-13. We reflect the aggregate policy limit by combining the indemnity severity distribution (described in Section C) to model the loss size, and the Negative Binomial distribution to model the number of occurrences. This combined distribution produces limited losses at various combinations of occurrence and aggregate limits.

The increased limit factors shown are the ratio of the sum of indemnity, ALAE, ULAE and risk load at each specific limit to the same sum evaluated at the basic limit. Therefore, the factor listed for the basic limit is 1.00.

Certain factors have been judgmentally modified to maintain consistency within the tables.

INCREASED LIMIT FACTORS
GENERAL LIABILITY
REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

**RULE 56.
INCREASED LIMITS TABLES**

1. Premises/Operations (Subline Code 334) Table 1 - \$100/200 Basic Limit

| Aggregate | Per Occurrence | | | | | | |
|-----------|----------------|------|------|------|------|------|-------|
| | \$ 25 | 50 | 100 | 200 | 300 | 500 | 1,000 |
| \$ 50 | 0.70 | 0.81 | | | | | |
| 100 | 0.71 | 0.85 | 0.97 | | | | |
| 200 | 0.72 | 0.86 | 1.00 | 1.11 | | | |
| 300 | 0.73 | 0.87 | 1.01 | 1.12 | 1.18 | | |
| 500 | | 0.89 | 1.03 | 1.14 | 1.20 | 1.29 | |
| 600 | | 0.90 | 1.04 | 1.15 | 1.21 | 1.30 | |
| 1,000 | | | 1.05 | 1.16 | 1.22 | 1.31 | 1.40 |
| 1,500 | | | | 1.17 | 1.23 | 1.32 | 1.41 |
| 2,000 | | | | 1.18 | 1.24 | 1.33 | 1.42 |
| 2,500 | | | | | 1.25 | 1.34 | 1.43 |
| 3,000 | | | | | 1.26 | 1.35 | 1.44 |

The following factors MUST be referred to company before using.

| Aggregate | Per Occurrence | | | | | | | |
|-----------|----------------|-------|-------|-------|-------|-------|-------|--------|
| | \$ 500 | 1,000 | 1,500 | 2,000 | 3,000 | 4,000 | 5,000 | 10,000 |
| \$ 1,500 | | | 1.46 | | | | | |
| 2,000 | | | 1.47 | 1.51 | | | | |
| 2,500 | | | 1.48 | 1.52 | | | | |
| 3,000 | | | 1.49 | 1.53 | 1.58 | | | |
| 4,000 | 1.36 | 1.45 | 1.50 | 1.54 | 1.59 | 1.64 | | |
| 5,000 | 1.37 | 1.46 | 1.51 | 1.55 | 1.60 | 1.65 | 1.69 | |
| 10,000 | | 1.47 | 1.52 | 1.56 | 1.61 | 1.66 | 1.70 | 1.83 |
| 20,000 | | | | | | | | 1.84 |

Table 56.B.1 Premises/Operations (Subline Code 334) Table 1 - \$100/200 Basic Limit

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

**RULE 56.
INCREASED LIMITS TABLES**

2. Premises/Operations (Subline Code 334) Table 2 - \$100/200 Basic Limit

| Aggregate | Per Occurrence | | | | | | |
|-----------|----------------|------|------|------|------|------|-------|
| | \$ 25 | 50 | 100 | 200 | 300 | 500 | 1,000 |
| \$ 50 | 0.71 | 0.80 | | | | | |
| 100 | 0.72 | 0.84 | 0.97 | | | | |
| 200 | 0.73 | 0.85 | 1.00 | 1.14 | | | |
| 300 | 0.74 | 0.86 | 1.01 | 1.15 | 1.25 | | |
| 500 | | 0.88 | 1.03 | 1.17 | 1.27 | 1.40 | |
| 600 | | 0.89 | 1.04 | 1.18 | 1.28 | 1.41 | |
| 1,000 | | | 1.05 | 1.19 | 1.29 | 1.42 | 1.60 |
| 1,500 | | | | 1.20 | 1.30 | 1.43 | 1.61 |
| 2,000 | | | | 1.21 | 1.31 | 1.44 | 1.62 |
| 2,500 | | | | | 1.32 | 1.45 | 1.63 |
| 3,000 | | | | | 1.33 | 1.46 | 1.64 |

The following factors MUST be referred to company before using.

| Aggregate | Per Occurrence | | | | | | | |
|-----------|----------------|-------|-------|-------|-------|-------|-------|--------|
| | \$ 500 | 1,000 | 1,500 | 2,000 | 3,000 | 4,000 | 5,000 | 10,000 |
| \$ 1,500 | | | 1.72 | | | | | |
| 2,000 | | | 1.73 | 1.81 | | | | |
| 2,500 | | | 1.74 | 1.82 | | | | |
| 3,000 | | | 1.75 | 1.83 | 1.93 | | | |
| 4,000 | 1.47 | 1.65 | 1.76 | 1.84 | 1.94 | 2.03 | | |
| 5,000 | 1.48 | 1.66 | 1.77 | 1.85 | 1.95 | 2.04 | 2.11 | |
| 10,000 | | 1.67 | 1.78 | 1.86 | 1.96 | 2.05 | 2.12 | 2.37 |
| 20,000 | | | | | | | | 2.38 |

Table 56.B.2 Premises/Operations (Subline Code 334) Table 2 - \$100/200 Basic Limit

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

**RULE 56.
INCREASED LIMITS TABLES**

3. Premises/Operations (Subline Code 334) Table 3 - \$100/200 Basic Limit

| Aggregate | Per Occurrence | | | | | | | |
|---|----------------|-------|-------|-------|-------|-------|-------|--------|
| | \$ 25 | 50 | 100 | 200 | 300 | 500 | 1,000 | |
| \$ 50 | 0.71 | 0.80 | | | | | | |
| 100 | 0.72 | 0.84 | 0.96 | | | | | |
| 200 | 0.73 | 0.85 | 1.00 | 1.16 | | | | |
| 300 | 0.74 | 0.86 | 1.01 | 1.17 | 1.29 | | | |
| 500 | | 0.88 | 1.03 | 1.19 | 1.31 | 1.49 | | |
| 600 | | 0.89 | 1.04 | 1.20 | 1.32 | 1.50 | | |
| 1,000 | | | 1.05 | 1.21 | 1.33 | 1.51 | 1.78 | |
| 1,500 | | | | 1.22 | 1.34 | 1.52 | 1.79 | |
| 2,000 | | | | 1.23 | 1.35 | 1.53 | 1.80 | |
| 2,500 | | | | | 1.36 | 1.54 | 1.81 | |
| 3,000 | | | | | 1.37 | 1.55 | 1.82 | |
| The following factors MUST be referred to company before using. | | | | | | | | |
| Aggregate | Per Occurrence | | | | | | | |
| | \$ 500 | 1,000 | 1,500 | 2,000 | 3,000 | 4,000 | 5,000 | 10,000 |
| \$ 1,500 | | | 1.95 | | | | | |
| 2,000 | | | 1.96 | 2.07 | | | | |
| 2,500 | | | 1.97 | 2.08 | | | | |
| 3,000 | | | 1.98 | 2.09 | 2.23 | | | |
| 4,000 | 1.56 | 1.83 | 1.99 | 2.10 | 2.24 | 2.35 | | |
| 5,000 | 1.57 | 1.84 | 2.00 | 2.11 | 2.25 | 2.36 | 2.45 | |
| 10,000 | | 1.85 | 2.01 | 2.12 | 2.26 | 2.37 | 2.46 | 2.77 |
| 20,000 | | | | | | | | 2.78 |

Table 56.B.3 Premises/Operations (Subline Code 334) Table 3 - \$100/200 Basic Limit

INCREASED LIMIT FACTORS
GENERAL LIABILITY

REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

**RULE 56.
INCREASED LIMITS TABLES**

4. Products/Completed Operations (Subline Code 336) Table A - \$100/200 Basic Limit

| Aggregate | Per Occurrence | | | | | | |
|-----------|----------------|------|------|------|------|------|-------|
| | \$ 25 | 50 | 100 | 200 | 300 | 500 | 1,000 |
| \$ 50 | 0.78 | 0.84 | | | | | |
| 100 | 0.79 | 0.88 | 0.97 | | | | |
| 200 | 0.80 | 0.89 | 1.00 | 1.09 | | | |
| 300 | 0.81 | 0.90 | 1.01 | 1.10 | 1.18 | | |
| 500 | | 0.92 | 1.03 | 1.12 | 1.20 | 1.29 | |
| 600 | | 0.93 | 1.04 | 1.13 | 1.21 | 1.30 | |
| 1,000 | | | 1.05 | 1.14 | 1.22 | 1.31 | 1.44 |
| 1,500 | | | | 1.15 | 1.23 | 1.32 | 1.45 |
| 2,000 | | | | 1.16 | 1.24 | 1.33 | 1.46 |
| 2,500 | | | | | 1.25 | 1.34 | 1.47 |
| 3,000 | | | | | 1.26 | 1.35 | 1.48 |

The following factors MUST be referred to company before using.

| Aggregate | Per Occurrence | | | | | | | |
|-----------|----------------|-------|-------|-------|-------|-------|-------|--------|
| | \$ 500 | 1,000 | 1,500 | 2,000 | 3,000 | 4,000 | 5,000 | 10,000 |
| \$ 1,500 | | | 1.53 | | | | | |
| 2,000 | | | 1.54 | 1.60 | | | | |
| 2,500 | | | 1.55 | 1.61 | | | | |
| 3,000 | | | 1.56 | 1.62 | 1.70 | | | |
| 4,000 | 1.36 | 1.49 | 1.57 | 1.63 | 1.71 | 1.77 | | |
| 5,000 | 1.37 | 1.50 | 1.58 | 1.64 | 1.72 | 1.78 | 1.84 | |
| 10,000 | | 1.51 | 1.59 | 1.65 | 1.73 | 1.79 | 1.85 | 2.02 |
| 20,000 | | | | | | | | 2.03 |

Table 56.B.4 Products/Completed Operations (Subline Code 336) Table A - \$100/200 Basic Limit

INCREASED LIMIT FACTORS
GENERAL LIABILITY

REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

**RULE 56.
INCREASED LIMITS TABLES**

5. Products/Completed Operations (Subline Code 336) Table B - \$100/200 Basic Limit

| Aggregate | Per Occurrence | | | | | | |
|-----------|----------------|------|------|------|------|------|-------|
| | \$ 25 | 50 | 100 | 200 | 300 | 500 | 1,000 |
| \$ 50 | 0.74 | 0.80 | | | | | |
| 100 | 0.76 | 0.86 | 0.94 | | | | |
| 200 | 0.77 | 0.87 | 1.00 | 1.11 | | | |
| 300 | 0.78 | 0.88 | 1.01 | 1.15 | 1.23 | | |
| 500 | | 0.90 | 1.03 | 1.17 | 1.27 | 1.39 | |
| 600 | | 0.91 | 1.04 | 1.18 | 1.28 | 1.41 | |
| 1,000 | | | 1.05 | 1.19 | 1.29 | 1.43 | 1.62 |
| 1,500 | | | | 1.20 | 1.30 | 1.44 | 1.63 |
| 2,000 | | | | 1.21 | 1.31 | 1.45 | 1.64 |
| 2,500 | | | | | 1.32 | 1.46 | 1.65 |
| 3,000 | | | | | 1.33 | 1.47 | 1.66 |

The following factors MUST be referred to company before using.

| Aggregate | Per Occurrence | | | | | | | |
|-----------|----------------|-------|-------|-------|-------|-------|-------|--------|
| | \$ 500 | 1,000 | 1,500 | 2,000 | 3,000 | 4,000 | 5,000 | 10,000 |
| \$ 1,500 | | | 1.76 | | | | | |
| 2,000 | | | 1.77 | 1.86 | | | | |
| 2,500 | | | 1.78 | 1.87 | | | | |
| 3,000 | | | 1.79 | 1.88 | 2.01 | | | |
| 4,000 | 1.48 | 1.67 | 1.80 | 1.89 | 2.02 | 2.11 | | |
| 5,000 | 1.49 | 1.68 | 1.81 | 1.90 | 2.03 | 2.12 | 2.20 | |
| 10,000 | | 1.69 | 1.82 | 1.91 | 2.04 | 2.13 | 2.21 | 2.45 |
| 20,000 | | | | | | | | 2.46 |

Table 56.B.5 Products/Completed Operations (Subline Code 336) Table B - \$100/200 Basic Limit

INCREASED LIMIT FACTORS
GENERAL LIABILITY

REVISED INCREASED LIMIT FACTORS

(Limits are in thousands)

**RULE 56.
INCREASED LIMITS TABLES**

6. Products/Completed Operations (Subline Code 336) Table C - \$100/200 Basic Limit

| | Per Occurrence | | | | | | | |
|---|----------------|-------|-------|-------|-------|-------|-------|--------|
| Aggregate | \$ 25 | 50 | 100 | 200 | 300 | 500 | 1,000 | |
| \$ 50 | 0.72 | 0.77 | | | | | | |
| 100 | 0.74 | 0.83 | 0.92 | | | | | |
| 200 | 0.75 | 0.86 | 1.00 | 1.13 | | | | |
| 300 | 0.76 | 0.87 | 1.02 | 1.19 | 1.28 | | | |
| 500 | | 0.89 | 1.04 | 1.23 | 1.36 | 1.50 | | |
| 600 | | 0.90 | 1.05 | 1.24 | 1.38 | 1.54 | | |
| 1,000 | | | 1.06 | 1.25 | 1.39 | 1.60 | 1.86 | |
| 1,500 | | | | 1.26 | 1.40 | 1.61 | 1.92 | |
| 2,000 | | | | 1.27 | 1.41 | 1.62 | 1.93 | |
| 2,500 | | | | | 1.42 | 1.63 | 1.94 | |
| 3,000 | | | | | 1.43 | 1.64 | 1.95 | |
| The following factors MUST be referred to company before using. | | | | | | | | |
| | Per Occurrence | | | | | | | |
| Aggregate | \$ 500 | 1,000 | 1,500 | 2,000 | 3,000 | 4,000 | 5,000 | 10,000 |
| \$ 1,500 | | | 2.08 | | | | | |
| 2,000 | | | 2.12 | 2.23 | | | | |
| 2,500 | | | 2.13 | 2.26 | | | | |
| 3,000 | | | 2.14 | 2.27 | 2.44 | | | |
| 4,000 | 1.65 | 1.96 | 2.15 | 2.28 | 2.46 | 2.58 | | |
| 5,000 | 1.66 | 1.97 | 2.16 | 2.29 | 2.47 | 2.60 | 2.69 | |
| 10,000 | | 1.98 | 2.17 | 2.30 | 2.48 | 2.62 | 2.72 | 3.06 |
| 20,000 | | | | | | | | 3.08 |

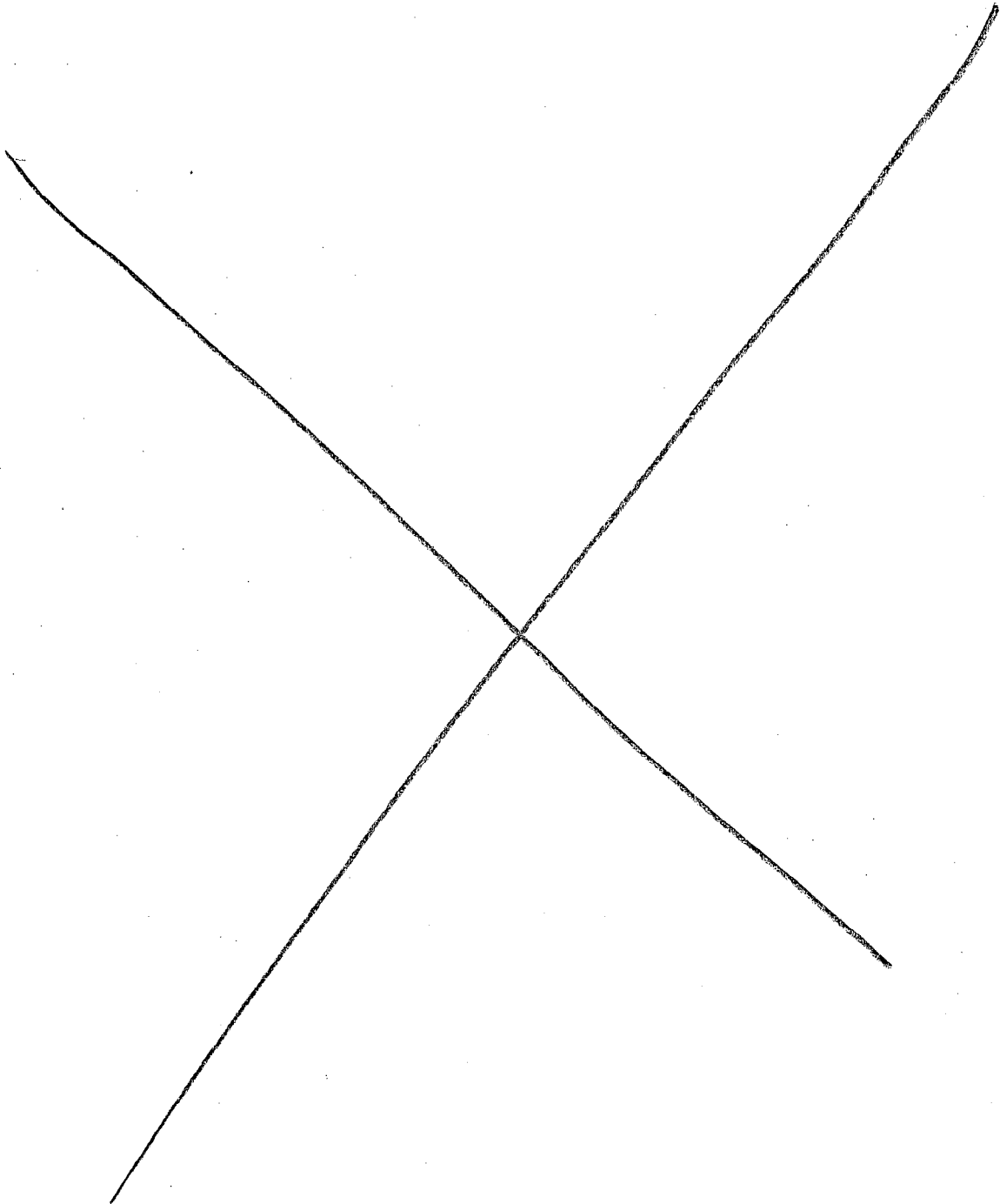
Table 56.B.6 Products/Completed Operations (Subline Code 336) Table C - \$100/200 Basic Limit

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION B - CALCULATION OF INCREASED LIMIT FACTORS

| | |
|---|---------|
| Overview of ISO Actuarial Procedures - Increased Limits..... | B2-B7 |
| Calculation of Premises/Operations Indicated Increased Limit Factors..... | B8-B10 |
| Calculation of Products/Completed Operations Indicated Increased Limit Factors..... | B11-B13 |



INCREASED LIMIT FACTORS
GENERAL LIABILITY

OVERVIEW OF ISO ACTUARIAL PROCEDURES - INCREASED LIMITS

INTRODUCTION

This overview describes the methods we use to calculate increased limit factors. The factors calculated here are for policies that are subject to occurrence limits, but not annual aggregate limits. Section A describes the aggregate model and provides the resulting occurrence/aggregate increased limit factors that we are filing. The per occurrence loss distributions and loss adjustment expense provisions that are described here (and in later sections) are key components of this aggregate model. Also, the calculation of increased limit factors for occurrence-only limits illustrates the principles underlying the calculation for occurrence/aggregate limits.

ISO defines an increased limit factor as the ratio of the expected cost (to the insurer) of a higher limit policy divided by the expected cost of a basic limit policy. The cost components of the occurrence-limit increased limit factor calculation are:

- Limited Average Severity (LAS) of Indemnity

The average indemnity per occurrence, limited to a given policy limit, at ultimate settlement value, and reflecting trend to the average accident date in the prospective experience period.

- Allocated Loss Adjustment Expense (ALAE) per occurrence

The average claim settlement expense per occurrence for those expenses in the settlement process that can be assigned to an individual claim. The largest component of ALAE is legal defense costs.

- Unallocated Loss Adjustment Expense (ULAE)

The average claim settlement expense per occurrence for those expenses in the settlement process that cannot be assigned to an individual claim (e.g., the salaries of claims adjusters).

- Risk Load (RL)

A loading that varies by policy limit and reflects the greater risk of issuing higher limit policies. The ISO risk load model recognizes two kinds of risk:

Process Risk - the inherent variability of the insurance process, reflected in the difference between actual losses and expected losses.

Parameter risk - the inherent variability of the estimation process, reflected in the difference between theoretical (true but unknown) expected losses and the estimated expected losses.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

OVERVIEW OF ISO ACTUARIAL PROCEDURES - INCREASED LIMITS

INTRODUCTION
(continued)

The ISO increased limit factor is the ratio of these costs at a specified limit divided by the corresponding costs at the basic limit. Given a basic limit b , the factor at occurrence policy limit PL is as follows:

$$ILF(PL) = \left[\frac{LAS(PL) + ALAE(PL) + ULAE(PL) + RL(PL)}{LAS(b) + ALAE(b) + ULAE(b) + RL(b)} \right]$$

Pages B-8 to B-13 show the indicated occurrence-limit increased limit factors for each of the increased limit tables from ISO's 2008 General Liability increased limit review. Also shown are the underlying components of the calculation by limit.

An overview of these four components of the occurrence-limit increased limit factor calculation follows.

STATE GROUPS

For Premises/Operations, we review the data by state or state group. Only the largest states have sufficient volume to review individually. In 2004, ISO revised the state group structure and credibility procedure. The largest 14 states are reviewed individually. The remaining 38 jurisdictions are grouped into a three-tiered state group structure to accommodate relatively low, medium, and high ILF state groups - State Group A, B, and C. State Group A is comprised of the lowest ILF states; State Group C is comprised of the highest ILF states; and State Group B contains the remainder of the states.

To generate the complements of credibility, we group each of the individually reviewed states with either State Group A, B or C creating three larger state group complements encompassing all states. State group experience is now combined with the corresponding state group complement experience at each layer of loss to enhance the stability of the increased limit factors. This is an application of the standard actuarial practice of credibility-weighting, which is described in greater detail in Section C of this filing. For a definition of the state group complements (referred to as A', B' and C'), please see page C-12.

Additionally, for the following calculations we have exclusively used multistate (all state groups) experience:

- Unallocated Loss Adjustment Expense
- Severity Trend

For Products/Completed Operations, we continue to review the data on a multistate basis. This is because the data is sparser and the loss exposure is more likely to encompass multiple states.

Overall and by-table indicated changes for Premises/Operations and Products/Completed Operations are calculated using state group weights.

For Premises/Operations, this state is reviewed in State Group B. State Group B consists of sixteen small and medium-sized states with similar historical loss distributions.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

OVERVIEW OF ISO ACTUARIAL PROCEDURES - INCREASED LIMITS

| | |
|-----------------------------|--|
| INDEMNITY | <p>In this document, we use the term "indemnity" to mean the amount paid to the claimant (excluding all loss adjustment expense). Indemnity is subject to policy limits. We construct an occurrence-size distribution that describes the indemnity before the effect of policy limits. By using this distribution, we can calculate expected future indemnity under any given policy limit.</p> |
| DATA FOR INDEMNITY ANALYSIS | <p>The limited average severity in this increased limits review is modeled using loss data reported to ISO under the Commercial Statistical Plan. The data includes paid (settled) occurrences on occurrence coverage policies with accident dates between January 1, 1993 and December 31, 2006, and average payment dates between January 1, 2002 and December 31, 2006. The data is evaluated as of March 31, 2007.</p> <p>For each occurrence we determine the increased limits table, accident year, payment lag, indemnity amount, policy limit, and any applicable deductible or attachment point.</p> |
| PAYMENT LAG | <p>We consider an occurrence to be settled if it has no outstanding reserve. If there are multiple payments, we consider the average payment date to be the dollar-weighted average of the dates of the individual payments.</p> <p>We use "payment lag" or "lag" to measure the amount of time between the occurrence and the payments made towards the loss settlement. A lag of 1 indicates that the average payment date is in the same accident year as the occurrence. A lag of 2 indicates that the average payment date falls in the following year, and so on.</p> |
| COMPOSITE-RATED RISKS | <p>Insurers report composite-rated risk (CRR) data to ISO without detailed class information. This means we cannot use class to assign CRR data to a specific table. For each CRR occurrence we can make a Bayesian estimate of the probability it belongs in each table based on its known characteristics.</p> <p>We include CRR data in the analysis by assigning part of each such occurrence to the various tables using this Bayesian analysis. Thus, we might consider a single \$100,000 occurrence from a composite-rated Premises/Operations Liability risk to be 1/3 of a "Table 1" occurrence, 1/2 of a "Table 2" occurrence, and 1/6 of a "Table 3" occurrence. In each case, the amount of the (fractional) occurrence would remain \$100,000.</p> |
| EXCESS AND UMBRELLA DATA | <p>We include additional data from the ISO Annual Call for Excess and Umbrella Policy Claims. This data enhances the credibility of our increased limit factors, but does not affect the lowest layers.</p> <p>These Excess and Umbrella policies have attachment points that exclude smaller losses much the same way as a large deductible would. While we can reconstruct the full size of loss for those occurrences greater than the attachment point of their policy, occurrences below the attachment point are not reported under the call. Note that we now also include statistically-reported UXS data in this review, from the last several accident years for which we have data reported in sufficient detail.</p> |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

Illustrative Data (Trended) for one Payment Lag

| <u>Occurrence ID Number</u> | <u>Occurrence Size</u> | <u>Attachment Point</u> | <u>Policy Limit</u> | <u>Comment</u> |
|---------------------------------|----------------------------|-----------------------------|-------------------------|-----------------|
| 1 | 5,000 | 0 | 15,000 | |
| 2 | 5,000 | 0 | 15,000 | |
| 3 | 15,000 | 0 | 15,000 | Censored Data |
| 4 | 5,000 | 7,500 | 15,000 | Deductible Data |
| 5 | 5,000 | 0 | 30,000 | |
| 6 | 15,000 | 0 | 30,000 | |
| 7 | 25,000 | 0 | 30,000 | |
| 8 | 10,000 | 15,000 | 30,000 | Excess Data |
| 9 | 15,000 | 0 | 100,000 | |
| 10 | 25,000 | 0 | 100,000 | |
| 11 | 30,000 | 0 | 100,000 | |
| 12 | 50,000 | 15,000 | 100,000 | Excess Data |

Where attachment point is non-zero, we define Policy Limit as the maximum payment.

Conditional Survival Probabilities

| | <u>Condition:</u> |
|--|---|
| $CSP_{e1}(10,000 0) = P(X \geq 10,000 X > 0)$ | PL + AP \geq 10,000 AP = 0 |
| $CSP_{e1}(20,000 10,000) = P(X \geq 20,000 X \geq 10,000)$ | PL + AP \geq 20,000 AP \leq 10,000 |
| $CSP_{e1}(40,000 20,000) = P(X \geq 40,000 X \geq 20,000)$ | PL + AP \geq 40,000 AP \leq 20,000 |

where AP = Attachment Point, PL = Policy Limit, X = Loss Size, e_1 = empirical lag 1

Calculation of Conditional Survival Probability at \$10,000

$$\begin{aligned}
 CSP_{e1}(10,000|0) &= P(X \geq 10,000|X > 0) = \frac{\text{Number of Occurrences with:}}{\text{Number of Occurrences with:}} \\
 &\quad \text{Occurrence Size + AP} \geq 10,000, \\
 &\quad \text{Policy Limit + AP} \geq 10,000, \text{ and AP} = 0 \\
 &\quad \text{Occurrence Size + AP} > 0, \\
 &\quad \text{Policy Limit + AP} \geq 10,000, \text{ and AP} = 0 \\
 &= \frac{6 \text{ (occurrences 3, 6, 7, 9, 10, 11)}}{9 \text{ (occurrences 1, 2, 3, 5, 6, 7, 9, 10, 11)}}
 \end{aligned}$$

Only occurrences with policy limit plus attachment point greater than or equal to 10,000 are used. Only occurrences with attachment point equal to zero are used.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

Calculation of Conditional Survival Probability at \$20,000

| | |
|---|--|
| $\text{CSP}_{e1}(20,000 10,000) = P(X \geq 20,000 X \geq 10,000) =$ | <div>Number of Occurrences with: Occurrence Size + AP $\geq 20,000$, <u>Policy Limit + AP $\geq 20,000$, and AP $\leq 10,000$</u></div> <div>Number of Occurrences with: Occurrence Size + AP $\geq 10,000$, Policy Limit + AP $\geq 20,000$, and AP $\leq 10,000$</div> <div>$= 3 \text{ (occurrences 7, 10, 11)}$ $= 6 \text{ (occurrences 4, 6, 7, 9, 10, 11)}$</div> |
|---|--|

Only occurrences with policy limit plus attachment point greater than or equal to 20,000 are used. Only occurrences with attachment point less than or equal to 10,000 are used.

Calculation of Conditional Survival Probability at \$40,000

| | |
|---|---|
| $\text{CSP}_{e1}(40,000 20,000) = P(X \geq 40,000 X \geq 20,000) =$ | <div>Number of Occurrences with: Occurrence Size + AP $\geq 40,000$, <u>Policy Limit + AP $\geq 40,000$, and AP $\leq 20,000$</u></div> <div>Number of Occurrences with: Occurrence Size + AP $\geq 20,000$, Policy Limit + AP $\geq 40,000$, and AP $\leq 20,000$</div> <div>$= 1 \text{ (occurrence 12)}$ $= 4 \text{ (occurrences 8, 10, 11, 12)}$</div> |
|---|---|

Only occurrences with policy limit plus attachment point greater than or equal to 40,000 are used. Only occurrences with attachment point less than or equal to 20,000 are used.

Calculation of Empirical Survival Distribution

The CSPs generate the following empirical survival probabilities:

$$\begin{aligned} S_{e1}(10,000) &= P(X \geq 10,000) = \text{CSP}_{e1}(10,000|0) = P(X \geq 10,000|X > 0) \\ &= 6/9 \end{aligned}$$

$$\begin{aligned} S_{e1}(20,000) &= P(X \geq 20,000) = \text{CSP}_{e1}(10,000|0) * \text{CSP}_{e1}(20,000|10,000) \\ &= P(X \geq 10,000|X > 0) * P(X \geq 20,000|X \geq 10,000) \\ &= 6/9 * 3/6 = 1/3 \end{aligned}$$

$$\begin{aligned} S_{e1}(40,000) &= P(X \geq 40,000) = \text{CSP}_{e1}(10,000|0) * \text{CSP}_{e1}(20,000|10,000) * \text{CSP}_{e1}(40,000|20,000) \\ &= P(X \geq 10,000|X > 0) * P(X \geq 20,000|X \geq 10,000) * P(X \geq 40,000|X \geq 20,000) \\ &= 6/9 * 3/6 * 1/4 = 1/12 \end{aligned}$$

In practice, to generate the trended empirical loss distribution for each lag, we now use sixty-eight discrete loss size layers. We previously used fifty-two layers, but have increased the number of layers to allow for a more refined selection of the Pareto tail-smoothing parameters.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

PAYMENT LAG
PROCESS

Development for paid (settled) data has two aspects. One aspect is that many occurrences are paid within a short period of time after the accident, with a small number taking longer -- sometimes much longer -- to be paid. The second aspect is the tendency of larger occurrences to take longer to be paid.

To properly model an accident year at ultimate, we must include each payment lag with its appropriate weight. We do this by:

- Accounting for the rate of payment using the probability-of-payment-lag model
- Constructing severity distributions by payment lag

Payment lags seven and beyond generally have similar loss sizes and are combined to increase credibility.

A "lag weighting" procedure then combines the by-lag distributions to generate an overall empirical loss distribution. This procedure implicitly accounts for development as all possible payment lags are represented and given weight at the prospective average accident date. We refer to the distribution of the overall survival probabilities by size of loss as the "empirical survival distribution function (SDF)".

PAYMENT LAG

Payment lag is the length of time between when an accident occurs and when it is paid. In the mixed exponential model, the payment date is the dollar-weighted average of indemnity payments. ISO calculates payment lag based on the year in which an accident occurs and the year in which the occurrence is paid:

$$\text{Payment Lag} = (\text{Payment Year} - \text{Accident Year}) + 1$$

Payment lag can vary considerably by line of business and by type of claim. While most property claims are paid quickly, liability claims generally take longer, particularly those involving protracted litigation. Among liability claims, there is considerable variation in payment lag.

DIFFERENCES
IN LOSS SIZES BY
PAYMENT LAG

Generally, occurrences with longer payment lags involve higher loss sizes. For example, the average loss size for occurrences paid in lag 4 will tend to be considerably higher than the average loss size for those paid in lag 1.

The Mixed Exponential Methodology reflects this by fitting (the continuous mixed exponential distribution) to a lag-weighted empirical survival distribution. We do not directly fit to the severity distributions of individual lags.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

PAYMENT LAG
DISTRIBUTION

The payment lag distribution is modeled to avoid distortions that may otherwise result from:

- Differing exposure amounts by accident year
- An asymmetrical experience period with fewer than five accident years for lags eleven through fourteen
- A finite number of lags (no data for lags beyond fourteen)

The lag-weighting procedure implicitly accounts for ultimate development as all possible payment lags are represented and given weight at the prospective average accident date.

The payment lag model uses three parameters (R1, R2, and R3) to generate the weights given to the severity distribution associated with each payment lag. The parameters can be represented as follows:

$$R1 = \frac{\text{expected percentage of occurrences paid in lag 2}}{\text{expected percentage of occurrences paid in lag 1}}$$

$$R2 = \frac{\text{expected percentage of occurrences paid in lag 3}}{\text{expected percentage of occurrences paid in lag 2}}$$

$$R3 = \frac{\text{expected percentage of occurrences paid in lag } (n+1)}{\text{expected percentage of occurrences paid in lag } (n)}, \text{ for all } n \geq 3$$

The weights for each lag are then determined as follows:

$$\text{Lag 1 weight} = 1 / k, \text{ where } k = \{1 + R1 + [R1 \cdot R2] / [1 - R3]\}$$

$$\text{Lag 2 weight} = R1 / k$$

$$\text{Lag 3 weight} = R1 \cdot R2 / k$$

$$\text{Lag 4 weight} = R1 \cdot R2 \cdot R3 / k$$

$$\text{Lag 5 weight} = R1 \cdot R2 \cdot R3^2 / k$$

$$\text{Lag 6 weight} = R1 \cdot R2 \cdot R3^3 / k$$

$$\text{Lag 7 weight} = R1 \cdot R2 \cdot [R3^4 / (1 - R3)] / k,$$

Note that the Lag 7 weight includes lag 7 and all subsequent lags.

The lag weights represent the percentage of ground-up occurrences in each lag. Therefore, occurrences from deductible, umbrella or excess policies with non-zero attachment points are not included.

METHOD OF
ESTIMATION:
PAYMENT LAG
PARAMETERS

For stability, we calculate the payment lag parameters (R1, R2 and R3) via maximum likelihood. A non-composite-rated occurrence with accident year a and payment lag l is reflected in the likelihood function by the probability that the lag equals l given that the accident year equals a . This conditional probability can be easily expressed in terms of the payment lag parameters.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

METHOD OF
ESTIMATION:
PAYMENT LAG
PARAMETERS
(continued)

For a composite-rated risk (CRR) occurrence the probability that the loss comes from a given table is computed by the procedure described below. Each CRR occurrence generates several probabilities, one for each table. These probabilities are treated as fractional occurrences in the likelihood function.

Pages C-18 and C-19 show the resulting values of these parameters.

TAIL OF THE
DISTRIBUTION

For the higher limits of liability, experience may be sparse in the tail of the distribution. To account for this, and to limit random fluctuations in the higher limits between consecutive reviews, we implicitly smooth the tails of the empirical state group distributions by smoothing the tails of the state group complement distributions (referred to as A', B' and C', see next page). We select truncation points above which the state group complements' empirical survival distribution functions are not sufficiently stable. The truncation points are:

\$900,000 for PremOps A' and C' Tables 1 and 3,
\$1,000,000 for PremOps B' Table 1 and Products (multistate) Tables A and C,
\$1,100,000 for PremOps A' Table 2,
\$1,200,000 for PremOps C' Table 2,
\$2,000,000 for PremOps B' Tables 2 and 3,
\$2,500,000 for Products (multistate) Table B

To address concerns about the variability of marginal SDF and LAS values in the higher limits of our analysis, we use relatively low truncation points for most tables, at (or near) the \$1 million limit, the limit with the greatest volume for all tables. Using low truncation points should enhance the stability of the tails of the distributions between reviews.

Then we select a parametric curve family that successfully models the behavior of the empirical distributions just below the truncation point. Percentile matching is used in the selection of the parameters of these curves. The resulting curve is used to extrapolate the empirical distributions above the truncation point. The state group complements' empirical distributions below the truncation point are unaffected by this procedure.

Essentially, this procedure smooths the tail of the state group complements' empirical distributions by extending relationships from the highest credible limits (those limits just below the truncation point) to those limits above the truncation point. For each state group, we use the shape of the appropriate extrapolated state group complement distribution to extend the credibility-weighted state group distribution above the truncation point. Essentially, this smooths the tail of the distribution for each state group and table. We then fit a mixed exponential distribution to the resulting SDF for each increased limits table.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

COMBINING
STATE GROUP
DATA WITH
STATE GROUP
COMPLEMENT
DATA

For Premises/Operations, we construct the empirical survival distribution by state group for each table. State group conditional survival probabilities (CSPs) are weighted with the larger, more representative state group complements' CSPs at each layer. Grouping states or state groups with larger state groupings of similar experience produces more consistent and intuitive complements of credibility. To generate the complements of credibility, we grouped each of the individually reviewed states with either state group A, B, or C creating three larger state group complements. The sum of these larger state group complements by definition includes all multistate data.

The definitions of the state group complements (referred to as A', B', and C') are as follows:

A': State Group A, MI, NC, VA, WI
B': State Group B, FL, IN, MA, NJ, OH, PA, TX
C': State Group C, CA, IL, NY

The weight assigned to each state group's CSP in each layer is an increasing function of the number of occurrences for that state group in that layer. Thus, in lower layers where greater volume contributes to stability for experience by state group, greater weight is given to state group experience.

The formula used is:

Weighted CSP_i = (Z_i) x State Group CSP_i + (1 - Z_i) x State Group Complement CSP_i,
where

$$Z_i = N_i / (N_i + K),$$

i is the ith loss size layer,

N_i is the number of occurrences that can be used to evaluate CSP_i for the state group,
and K=300 for state group A', K=200 for state group B', and K=100 for state group C'.

The value of K was selected based on an evaluation of the total variability of CSPs by layer compared to the variability across all state groups within the state group complement. This is an application of Bühlmann-Straub credibility procedures to CSPs. Bühlmann-Straub credibility procedures are described in a number of actuarial texts, including Loss Models: From Data to Decisions³.

For the highest layers of loss, we first extrapolate the CSPs for the three larger state group complements A', B' and C'. See *Tail of the Distribution*, on page C-11, for more details regarding the tail smoothing process.

Please note that because Products/Completed Operations increased limit factors are reviewed on a multistate basis, the credibility procedure is not applicable.

³ Klugman, S. A., H.H. Panjer, and G. E. Willmot, *Loss Models: From Data to Decisions*, John Wiley and Sons, New York, 1998

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

FITTING A MIXED
EXPONENTIAL
DISTRIBUTION

ISO models the lag-weighted empirical survival distribution function for each table with the best fitting mixed exponential distribution. The resulting mixed exponential distribution produces the limited average severity component of the increased limit factor.

THE SIMPLE
EXPONENTIAL
DISTRIBUTION

To understand the mixed exponential distribution, first consider the simple exponential distribution. The simple exponential is a one-parameter distribution. The formulas for the survival distribution function (SDF(x)) and the limited average severity (LAS) at a given policy limit (PL) for an exponential distribution with mean parameter μ are given by:

$$\text{SDF}(x) = \exp(-x/\mu) = 1 - \text{CDF}(x)$$

$$\text{LAS}(\text{PL}) = \mu [1 - \exp(-\text{PL} / \mu)]$$

THE MIXED
EXPONENTIAL
DISTRIBUTION

The mixed exponential distribution is a weighted average of exponential distributions. Each exponential distribution has two parameters, a mean μ_i and a weight w_i . Note that the SDF at zero is unity, and the weights sum to 1.0.

The formulas for the survival distribution function and limited average severity for the mixed exponential distribution are the weighted averages of the respective single exponential formulas:

$$\text{SDF}(x) = \sum_i [w_i \exp(-x / \mu_i)]$$

$$\text{LAS}(\text{PL}) = \sum_i w_i \mu_i [1 - \exp(-\text{PL} / \mu_i)]$$

The mixed exponential distribution allows us to model indemnity with greater flexibility than the previously-used mixed Pareto and truncated Pareto distributions. In fact, any distribution whose probability density function (pdf) has alternating derivatives:

$$\begin{aligned} \text{pdf}(x) &> 0, \\ d \text{pdf}(x)/dx &< 0, \\ d^2 \text{pdf}(x)/dx^2 &> 0, \\ d^3 \text{pdf}(x)/dx^3 &< 0, \\ \text{etc., for all } x &> 0, \end{aligned}$$

can be constructed as a mixture of exponentials with positive means and weights. Such distributions (including the mixed Pareto, if it has a finite mean) can be thought of as special cases of the mixed exponential distribution.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

THE MIXED
EXPONENTIAL
DISTRIBUTION
SEVERITY
PARAMETERS

ISO estimates the mixed exponential distribution parameters using minimum distance estimation. We compare the model SDF to the empirical SDF at each of the discrete loss size layers resulting from the construction.

We seek a mixed exponential distribution that minimizes the weighted sum of the square of the differences of these survival probabilities (model minus empirical) taken at each loss size layer. This procedure is known as the "minimum distance" method.

The number of exponential distributions needed to produce an optimal fit to the empirical SDF may vary by table and is allowed to be as large as necessary.

To address concerns about the fitted mixed exponential distribution for higher limits of liability (above \$10 million), we have revised our fitting procedure somewhat, starting with the 2008 review. Whereas in the past we limited the maximum possible mean to \$10 million, we now allow means up to \$100 million, in order to more closely follow the smoothed empirical distribution in layers above \$10 million. Allowing means up to \$100 million will tend to increase the number of means (and weights) for the fitted distribution in a given table, while having minimal effect on limits up to \$10 million, the highest limit for which we publish increased limit factor information.

Page C-20 displays the mixed exponential parameters (means and weights) for each increased limits table.

MAY NOT BE
APPLICABLE FOR
ALL POLICY
LIMITS

ISO's standard increased limits tables (shown in Section B) provide increased limit factors up to the \$10,000,000 per occurrence policy limit. We encourage the use of supplemental sources of information for analysis of layers above \$10,000,000.

FINAL LIMITED
AVERAGE
SEVERITIES

ISO calculates the limited average severities using the fitted mixed exponential distributions for each table. Page C-13 gives the formula for the limited average severity of a mixed exponential distribution. Page C-20 shows the individual by-table severity parameters used in this formula for each increased limits table.

Pages C-21 to C-23 compare the fitted limited average severities to the empirical limited average severities. The empirical limited average severities are constructed in a manner analogous to the empirical survival distributions. The same conditions and assumptions are used in combination with actual trended loss amounts in each layer.

COMPOSITE-
RATED RISKS
ADJUSTMENT

We generally cannot identify the class for composite-rated risk (CRR) data. This means we cannot use class to assign CRR data to a specific table. But a significant proportion of our data is composite-rated; for this reason, and for credibility considerations, we want to include CRR data in our calculations of increased limit factors.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

COMPOSITE-
RATED RISKS
ADJUSTMENT
(continued)

For a CRR occurrence, we know the accident year, payment lag, and indemnity amount. We use this information in a Bayesian analysis to allocate a portion of each CRR occurrence to each table.

EXCESS AND
UMBRELLA
DATA

Excess and Umbrella occurrences are allocated using the same Bayesian analysis as CRR occurrences.

BAYESIAN
ANALYSIS

For each payment lag, the Bayesian analysis is as follows:

$$P(\text{Table}|\text{Indemnity})$$

$$= \frac{P(\text{Indemnity} | \text{Table}) \cdot P(\text{Table})}{\sum P(\text{Indemnity} | \text{Table}) \cdot P(\text{Table})}$$

The sum in the denominator is over all tables.

Here $P(\text{Table}|\text{Indemnity})$ is the conditional probability (within the payment lag) that an occurrence comes from the specified table, given the indemnity amount.

$P(\text{Table})$ is the marginal probability (within the payment lag) that an occurrence comes from the specified table.

Clearly, the table probabilities sum to one:

$$\sum P(\text{Table}|\text{Indemnity}) = 1;$$

that is, 100% of each occurrence is allocated.

We estimate $P(\text{Table})$ as the ratio of two sums:

$$P(\text{Table}) = \frac{\text{\# of occurrences with known table in this table}}{\text{\# of occurrences with known table in all tables}}$$

Here we restrict both the numerator and denominator to the payment lag under consideration.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

BAYESIAN
ALLOCATION
AND EMPIRICAL
SURVIVAL
DISTRIBUTIONS

For an occurrence with unknown table not censored by policy limits, we use:

$$P(\text{Indemnity}|\text{Table}) = f(\text{Indemnity Layer}),$$

where $f(\text{Indemnity Layer})$ is the empirical probability of an occurrence being in the indemnity layer. This empirical probability is the difference of the empirical SDF (for the table-payment lag combination) between the top and the bottom of the layer.

For an occurrence with unknown table censored by policy limits, we use:

$$P(\text{Indemnity}|\text{Table}) = \text{SDF}(\text{Indemnity Layer}),$$

where $\text{SDF}(\text{Indemnity Layer})$ is the empirical SDF evaluated at the bottom of a layer, for the table-payment lag combination.

We use the empirical SDF construction to allocate CRR data to tables. We use the allocated CRR data (as well as the non-CRR data) to construct the empirical SDFs. We resolve mutual interdependence by iterating the construction and allocation procedures.

We start our allocation by constructing SDFs from non-CRR data. After each construction step we have an intermediate estimate of the SDFs. We use this intermediate set of parameters to make an interim allocation of the CRR data. We then use this interim allocation to construct the next estimate of the SDFs. At each step, the allocation and SDFs change, until the procedure converges.

ALLOCATED
DATA IN
PROBABILITY-
OF-PAYMENT-
LAG MODEL

We allocate CRR data to tables within an accident year and payment lag using the Bayesian analysis described above. We then have revised occurrence counts by accident year, payment lag, and table. These counts include fractional occurrences from the CRR data. These counts are the raw data for our probability-of-payment-lag model.

We do not include Excess and Umbrella data, or deductible data, in the probability-of-payment-lag model. This avoids bias from not including unreported occurrences smaller than the policy attachment points or deductibles.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

INDEMNITY SEVERITY TREND INDICATIONS*

| | <u>10 yrs</u> | <u>8 yrs</u> | <u>6 yrs</u> |
|---|---------------|--------------|--------------|
| TOTAL LIMITS | | | |
| PREMISES/OPERATIONS | +7.3% | +7.6% | +6.8% |
| (Inc. Lim. Data through AccYr 12/31/2006) | (0.99) | (0.98) | (0.96) |

BASIC LIMIT SELECTED SEVERITY TRENDS**

| | |
|----------|-------|
| OL&T, BI | +3.5% |
| OL&T, PD | +5.0% |

| | |
|---------|-------|
| M&C, BI | +7.0% |
| M&C, PD | +7.5% |

| | |
|-------------------------------------|-------|
| INCREASED LIMITS PREM/OPS SELECTION | +7.0% |
|-------------------------------------|-------|

| | <u>10 yrs</u> | <u>8 yrs</u> | <u>6 yrs</u> |
|---|---------------|--------------|--------------|
| TOTAL LIMITS | | | |
| PRODUCTS/COMPLETED OPERATIONS | +7.0% | +6.9% | +7.5% |
| (Inc. Lim. Data through AccYr 12/31/2006) | (0.91) | (0.83) | (0.75) |

BASIC LIMIT SELECTED SEVERITY TRENDS**

| | |
|--------------|-------|
| PRODUCTS, BI | +7.0% |
| PRODUCTS, PD | +8.0% |

| | |
|------------------------------|--------|
| LOCAL PROD/COMPLETED OPS, BI | +9.0% |
| LOCAL PROD/COMPLETED OPS, PD | +10.0% |

| | |
|-------------------------------------|-------|
| INCREASED LIMITS PRODUCTS SELECTION | +8.5% |
|-------------------------------------|-------|

* Values in parentheses indicate R-squared statistic, a measure of goodness-of-fit.

** See AS-GL-2008-009

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

PAYMENT LAG PARAMETERS AND LAG WEIGHTS

PREMISES/OPERATIONS LIABILITY
State Group B

Payment Lag Parameters

| | <u>TABLE 1</u> | <u>TABLE 2</u> | <u>TABLE 3</u> |
|---|----------------|----------------|----------------|
| R1 = | 0.52091691 | 0.52645593 | 0.55412819 |
| R2 = | 0.24753440 | 0.30169221 | 0.33810040 |
| R3 = | 0.51160713 | 0.58107156 | 0.60252432 |
| $k = 1 + R1 + ((R1 \cdot R2) / (1 - R3)) =$ | 1.78493562 | 1.90558428 | 2.02548020 |

Generation of Lag Weights

| | | <u>TABLE 1</u> | <u>TABLE 2</u> | <u>TABLE 3</u> |
|----------------|---|-------------------|-------------------|-------------------|
| Lag 1 = | 1/k = | 0.56024429 | 0.52477344 | 0.49371009 |
| Lag 2 = | R1/k = | 0.29184073 | 0.27627008 | 0.27357867 |
| Lag 3 = | R1•R2/k = | 0.07224062 | 0.08334853 | 0.09249706 |
| Lag 4 = | R1•R2•R3/k = | 0.03695882 | 0.04843146 | 0.05573173 |
| Lag 5 = | R1•R2•R3 ² /k = | 0.01890839 | 0.02814214 | 0.03357972 |
| Lag 6 = | R1•R2•R3 ³ /k = | 0.00967367 | 0.01635260 | 0.02023260 |
| Lag 7 = | $R1 \cdot R2 \cdot (R3^4 / (1 - R3)) / k =$ | <u>0.01013348</u> | <u>0.02268175</u> | <u>0.03067013</u> |
| | TOTAL = | 1.00000000 | 1.00000000 | 1.00000000 |

The lag weight distribution includes allocated CRR data, but excludes data with a non-zero deductible or attachment point.

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

PAYMENT LAG PARAMETERS AND LAG WEIGHTS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
Multistate

Payment Lag Parameters

| | <u>TABLE A</u> | <u>TABLE B</u> | <u>TABLE C</u> |
|---|----------------|----------------|----------------|
| R1 = | 0.53952598 | 0.69854961 | 0.75619676 |
| R2 = | 0.21184544 | 0.41535354 | 0.66521119 |
| R3 = | 0.75764225 | 0.81216019 | 0.80644656 |
| $k = 1 + R1 + ((R1 \cdot R2) / (1 - R3)) =$ | 2.01112684 | 3.24319052 | 4.35512012 |

Generation of Lag Weights

| | | <u>TABLE A</u> | <u>TABLE B</u> | <u>TABLE C</u> |
|---------|-------------------------------------|----------------|----------------|----------------|
| Lag 1 = | 1/k = | 0.49723369 | 0.30833834 | 0.22961480 |
| Lag 2 = | R1/k = | 0.26827049 | 0.21538963 | 0.17363396 |
| Lag 3 = | R1•R2/k = | 0.05683188 | 0.08946285 | 0.11550325 |
| Lag 4 = | R1•R2•R3/k = | 0.04305823 | 0.07265816 | 0.09314720 |
| Lag 5 = | R1•R2•R3 ² /k = | 0.03262274 | 0.05901007 | 0.07511824 |
| Lag 6 = | R1•R2•R3 ³ /k = | 0.02471636 | 0.04792563 | 0.06057885 |
| Lag 7 = | R1•R2•(R3 ⁴ /(1-R3))/k = | 0.07726661 | 0.20721532 | 0.25240370 |
| | TOTAL = | 1.00000000 | 1.00000000 | 1.00000000 |

The lag weight distribution includes allocated CRR data, but excludes data with a non-zero deductible or attachment point.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

OVERVIEW OF ISO ACTUARIAL PROCEDURES - INCREASED LIMITS

EXCESS AND
UMBRELLA
DATA
(continued)

When we construct the empirical survival distribution, we exclude occurrences where the attachment points do not meet certain criteria, to avoid bias. Section C describes reasons for this in more detail.

Because Excess and Umbrella data is not reported in class detail, we allocate the data to a table using the same procedure we use for CRR data.

We rely on the latest fourteen calendar accident years of excess data (1993-2006). This is consistent with the data we use reported under the Commercial Statistical Plan. Please note, however, that the 2008 GL indications reflect thirteen calendar years of paid settled Excess and Umbrella data in order to enhance credibility at higher layers.

INDEMNITY
DEVELOPMENT

We fit paid settled loss data to derive our occurrence-size distributions. By using losses settled at ultimate in the model, it is not necessary to develop losses.

We combine data from different payment lags using a lag-weighting procedure. This procedure implicitly accounts for development as all possible payment lags are represented and given appropriate weight at the prospective average accident date.

For each occurrence in an accident year, there is a probability that the occurrence falls in a given payment lag. We assume that this probability (which may vary by Table) is the same for all accident years. We refer to this probability as the "lag weight".

Given the total number of occurrences for an accident year, the number falling into each payment lag follows a multinomial distribution. We use maximum likelihood estimation to calculate the lag weights from the observed average payment lags in our data. To enhance stability in the more mature lags, we apply certain constraints to the relationship between consecutive lag weights.

INDEMNITY
SEVERITY
TREND

To bring different accident years to the same level, we project each occurrence from the average date of its accident year to December 1, 2009, one year beyond the assumed effective date of December 1, 2008. In this review, we selected an annual trend of +7.0% for Premises/Operations and +8.5% for Products/Completed Operations based on the review of trend indications described in Section C.

MIXED
EXPONENTIAL
MODEL

For each table, we fit a continuous distribution to the lag-weighted occurrence-size distribution from the data. The resulting distribution produces the limited average severity component of the increased limit factor.

The fitting procedure uses a mixture of exponential distributions to model indemnity. ISO found that the mixed exponential distribution provides a good fit to empirical data over a wide range of loss sizes, is flexible, and simple to use.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

OVERVIEW OF ISO ACTUARIAL PROCEDURES - INCREASED LIMITS

OVERVIEW OF
MIXED
EXPONENTIAL
PROCESS

Section C describes the calculation of the limited average severities of indemnity in detail. The major steps in the calculation are:

1. Trend

Trending occurrence sizes to reflect the expected conditions during the period when the increased limit factors are assumed to be in effect.

2. Construction of the Empirical Survival Distributions

Using the trended data to calculate the empirical survival distributions by payment lag for each table and state group (for Premises/Operations).

3. Payment Lag Process

Combining the empirical distributions for each payment lag to produce an overall empirical survival distribution for each table and state group (for Premises/Operations).

4. Tail of the Distribution

Smoothing the tail of the lag-weighted empirical survival distribution for each table separately for each of the larger state group complements (for Premises/Operations).

5. Combining State Group data with State Group Complement data

Credibility-weighting the Premises/Operations state group experience with the experience of the corresponding state group complement.

6. Fitting a Mixed Exponential Distribution

Fitting a mixed exponential model to the empirical survival distribution.

7. Final Limited Average Severities

Using the fitted mixed exponential distribution to generate limited average severities for the various policy limits.

ALLOCATED
LOSS
ADJUSTMENT
EXPENSE

We estimate allocated loss adjustment expense (ALAE) per occurrence as the product of two numbers. The first number is the ratio of ALAE to total limits (all limits combined) indemnity. The second number is the average (across all policy limits) limited average severity calculated from the indemnity severity model. We assume that ALAE per occurrence does not vary by policy limit. Section D contains a description of the estimation process.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

OVERVIEW OF ISO ACTUARIAL PROCEDURES - INCREASED LIMITS

UNALLOCATED
LOSS
ADJUSTMENT
EXPENSE

We calculate the unallocated loss adjustment expense (ULAE) for each limit as a percentage (4.5%) of the sum of the average severity and the ALAE at that limit. The selected percent is based on multistate financial data reported to ISO. See Section E for the derivation of the selected ULAE percent.

RISK LOAD

In order to properly reflect the greater risk associated with higher limit policies, we use a risk load procedure. The fundamental purpose of the risk load procedure is to make each policy limit being written equally attractive to insurers. The procedure accomplishes this by offsetting the greater risk associated with higher limit policies with an appropriate risk load provision that increases as the policy limit increases.

We calculate a risk load amount for each policy limit using the mathematical model described in Section F. This risk load amount reflects both process risk and parameter risk. Parameter risk reflects the uncertainty or variation of estimated expected results around the true expected results. Process risk reflects the uncertainty or variation of the actual results around the expected results.

The risk load procedure produces indicated increased limit factors that are on average 6.0% higher for all General and Commercial Auto Liability tables than such factors would be if calculated without risk load.

SUMMARY

In summary, we calculate limited average severities from a continuous model of occurrence size. In this model, we fit mixed exponential distributions to trended lag-weighted occurrence-size distributions.

We calculate allocated loss adjustment expense per occurrence that does not vary by policy limit. We calculate unallocated loss adjustment expense by limit as a percentage of the sum of the limited average severity and allocated loss adjustment expense. We calculate risk load amounts reflecting process and parameter risk.

Finally, we calculate the sum of the average severity, allocated loss adjustment expense, unallocated loss adjustment expense, and risk load. The ratio of this sum at the limit desired to this sum at the basic limit is the per occurrence increased limit factor.

AGGREGATE
LIMITS

This and later sections describe the production of increased limit factors reflecting per occurrence limitation. Section A contains the procedure for also reflecting annual aggregate limits, and the resulting factors.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

TABLE 1

| (1) Policy Limit (\$,000) | (2)* Limited Average Severity | (3) ALAE per Occurrence | (4) ULAE per Occurrence | (5) Process Risk Load | (6) Parameter Risk Load | (7)** Increased Limit Factor |
|------------------------------------|--|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------------|
| 100 | 9,077 | 3,449 | 564 | 95 | 80 | 1.00 |
| 200 | 10,815 | 3,449 | 642 | 185 | 95 | 1.14 |
| 250 | 11,324 | 3,449 | 665 | 225 | 100 | 1.19 |
| 300 | 11,726 | 3,449 | 683 | 264 | 104 | 1.22 |
| 500 | 12,785 | 3,449 | 731 | 407 | 113 | 1.32 |
| 750 | 13,528 | 3,449 | 764 | 563 | 120 | 1.39 |
| 1,000 | 13,996 | 3,449 | 785 | 702 | 125 | 1.44 |
| 1,500 | 14,578 | 3,449 | 811 | 945 | 130 | 1.50 |
| 2,000 | 14,946 | 3,449 | 828 | 1,161 | 133 | 1.55 |
| 2,500 | 15,208 | 3,449 | 840 | 1,360 | 136 | 1.58 |
| 3,000 | 15,407 | 3,449 | 849 | 1,545 | 138 | 1.61 |
| 4,000 | 15,695 | 3,449 | 861 | 1,882 | 140 | 1.66 |
| 5,000 | 15,898 | 3,449 | 871 | 2,188 | 142 | 1.70 |
| 10,000 | 16,433 | 3,449 | 895 | 3,470 | 147 | 1.84 |

* Reflects trend to an average accident date of December 1, 2009 and development to ultimate maturity. Calculated from continuous indemnity model described in Section C.

** Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit (\$100,000).

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

TABLE 2

| (1) Policy Limit (\$,000) | (2)* Limited Average Severity | (3) ALAE per Occurrence | (4) ULAE per Occurrence | (5) Process Risk Load | (6) Parameter Risk Load | (7)** Increased Limit Factor |
|------------------------------------|--|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------------|
| 100 | 13,058 | 7,846 | 941 | 161 | 206 | 1.00 |
| 200 | 16,575 | 7,846 | 1,099 | 349 | 264 | 1.18 |
| 250 | 17,723 | 7,846 | 1,151 | 443 | 283 | 1.24 |
| 300 | 18,658 | 7,846 | 1,193 | 534 | 298 | 1.28 |
| 500 | 21,280 | 7,846 | 1,311 | 898 | 342 | 1.43 |
| 750 | 23,376 | 7,846 | 1,405 | 1,347 | 376 | 1.55 |
| 1,000 | 24,809 | 7,846 | 1,469 | 1,777 | 400 | 1.63 |
| 1,500 | 26,638 | 7,846 | 1,552 | 2,548 | 432 | 1.76 |
| 2,000 | 27,774 | 7,846 | 1,603 | 3,220 | 452 | 1.84 |
| 2,500 | 28,570 | 7,846 | 1,639 | 3,827 | 465 | 1.91 |
| 3,000 | 29,173 | 7,846 | 1,666 | 4,387 | 476 | 1.96 |
| 4,000 | 30,044 | 7,846 | 1,705 | 5,412 | 491 | 2.05 |
| 5,000 | 30,662 | 7,846 | 1,733 | 6,349 | 501 | 2.12 |
| 10,000 | 32,313 | 7,846 | 1,807 | 10,316 | 530 | 2.38 |

* Reflects trend to an average accident date of December 1, 2009 and development to ultimate maturity. Calculated from continuous indemnity model described in Section C.

** Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit (\$100,000).

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PREMISES/OPERATIONS LIABILITY
STATE GROUP B

TABLE 3

| (1) Policy Limit (\$,000) | (2)* Limited Average Severity | (3) ALAE per Occurrence | (4) ULAE per Occurrence | (5) Process Risk Load | (6) Parameter Risk Load | (7)** Increased Limit Factor |
|------------------------------------|--|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------------|
| 100 | 16,107 | 12,575 | 1,291 | 220 | 351 | 1.00 |
| 200 | 21,460 | 12,575 | 1,532 | 516 | 468 | 1.20 |
| 250 | 23,323 | 12,575 | 1,615 | 670 | 509 | 1.27 |
| 300 | 24,899 | 12,575 | 1,686 | 828 | 544 | 1.33 |
| 500 | 29,645 | 12,575 | 1,900 | 1,499 | 648 | 1.51 |
| 750 | 33,706 | 12,575 | 2,083 | 2,385 | 737 | 1.69 |
| 1,000 | 36,541 | 12,575 | 2,210 | 3,245 | 800 | 1.81 |
| 1,500 | 40,096 | 12,575 | 2,370 | 4,756 | 879 | 1.99 |
| 2,000 | 42,173 | 12,575 | 2,464 | 5,994 | 926 | 2.10 |
| 2,500 | 43,551 | 12,575 | 2,526 | 7,050 | 957 | 2.18 |
| 3,000 | 44,566 | 12,575 | 2,571 | 8,000 | 980 | 2.25 |
| 4,000 | 46,035 | 12,575 | 2,637 | 9,736 | 1,012 | 2.36 |
| 5,000 | 47,092 | 12,575 | 2,685 | 11,343 | 1,036 | 2.45 |
| 10,000 | 49,896 | 12,575 | 2,811 | 18,086 | 1,098 | 2.77 |

* Reflects trend to an average accident date of December 1, 2009 and development to ultimate maturity. Calculated from continuous indemnity model described in Section C.

** Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit (\$100,000).

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE A

| (1) Policy Limit (\$,000) | (2)* Limited Average Severity | (3) ALAE per Occurrence | (4) ULAE per Occurrence | (5) Process Risk Load | (6) Parameter Risk Load | (7)** Increased Limit Factor |
|------------------------------------|--|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------------|
| 100 | 10,544 | 11,231 | 980 | 136 | 1,095 | 1.00 |
| 200 | 13,121 | 11,231 | 1,096 | 282 | 1,363 | 1.13 |
| 250 | 13,986 | 11,231 | 1,135 | 355 | 1,453 | 1.17 |
| 300 | 14,700 | 11,231 | 1,167 | 428 | 1,528 | 1.21 |
| 500 | 16,707 | 11,231 | 1,257 | 713 | 1,738 | 1.32 |
| 750 | 18,287 | 11,231 | 1,328 | 1,059 | 1,903 | 1.41 |
| 1,000 | 19,376 | 11,231 | 1,377 | 1,391 | 2,017 | 1.48 |
| 1,500 | 20,797 | 11,231 | 1,441 | 1,997 | 2,166 | 1.57 |
| 2,000 | 21,684 | 11,231 | 1,481 | 2,526 | 2,259 | 1.63 |
| 2,500 | 22,301 | 11,231 | 1,509 | 2,999 | 2,324 | 1.68 |
| 3,000 | 22,765 | 11,231 | 1,530 | 3,434 | 2,373 | 1.72 |
| 4,000 | 23,433 | 11,231 | 1,560 | 4,223 | 2,443 | 1.79 |
| 5,000 | 23,902 | 11,231 | 1,581 | 4,936 | 2,493 | 1.84 |
| 10,000 | 25,114 | 11,231 | 1,636 | 7,849 | 2,620 | 2.02 |

* Reflects trend to an average accident date of December 1, 2009 and development to ultimate maturity. Calculated from continuous indemnity model described in Section C.

** Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit (\$100,000).

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE B

| (1) Policy Limit (\$,000) | (2)* Limited Average Severity | (3) ALAE per Occurrence | (4) ULAE per Occurrence | (5) Process Risk Load | (6) Parameter Risk Load | (7)** Increased Limit Factor |
|------------------------------------|--|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------------|
| 100 | 21,016 | 29,168 | 2,258 | 387 | 5,249 | 1.00 |
| 200 | 28,072 | 29,168 | 2,576 | 848 | 7,022 | 1.17 |
| 250 | 30,497 | 29,168 | 2,685 | 1,079 | 7,633 | 1.22 |
| 300 | 32,507 | 29,168 | 2,775 | 1,307 | 8,140 | 1.27 |
| 500 | 38,239 | 29,168 | 3,033 | 2,199 | 9,585 | 1.42 |
| 750 | 42,935 | 29,168 | 3,245 | 3,301 | 10,769 | 1.54 |
| 1,000 | 46,336 | 29,168 | 3,398 | 4,397 | 11,627 | 1.63 |
| 1,500 | 51,017 | 29,168 | 3,608 | 6,486 | 12,813 | 1.78 |
| 2,000 | 54,043 | 29,168 | 3,744 | 8,356 | 13,585 | 1.87 |
| 2,500 | 56,134 | 29,168 | 3,839 | 10,007 | 14,119 | 1.95 |
| 3,000 | 57,672 | 29,168 | 3,908 | 11,482 | 14,513 | 2.01 |
| 4,000 | 59,832 | 29,168 | 4,005 | 14,086 | 15,065 | 2.10 |
| 5,000 | 61,335 | 29,168 | 4,073 | 16,409 | 15,448 | 2.18 |
| 10,000 | 65,271 | 29,168 | 4,250 | 25,973 | 16,451 | 2.43 |

* Reflects trend to an average accident date of December 1, 2009 and development to ultimate maturity. Calculated from continuous indemnity model described in Section C.

** Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit (\$100,000).

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED INCREASED LIMIT FACTORS

PRODUCTS/COMPLETED OPERATIONS LIABILITY
MULTISTATE

TABLE C

| (1) Policy Limit (\$,000) | (2)* Limited Average Severity | (3) ALAE per Occurrence | (4) ULAE per Occurrence | (5) Process Risk Load | (6) Parameter Risk Load | (7)** Increased Limit Factor |
|------------------------------------|--|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------------|
| 100 | 30,482 | 46,999 | 3,487 | 697 | 13,418 | 1.00 |
| 200 | 43,299 | 46,999 | 4,063 | 1,644 | 19,074 | 1.21 |
| 250 | 47,982 | 46,999 | 4,274 | 2,141 | 21,142 | 1.29 |
| 300 | 52,000 | 46,999 | 4,455 | 2,646 | 22,916 | 1.36 |
| 500 | 64,139 | 46,999 | 5,001 | 4,725 | 28,278 | 1.57 |
| 750 | 74,452 | 46,999 | 5,465 | 7,345 | 32,839 | 1.76 |
| 1,000 | 81,734 | 46,999 | 5,793 | 9,853 | 36,066 | 1.90 |
| 1,500 | 91,234 | 46,999 | 6,220 | 14,327 | 40,285 | 2.09 |
| 2,000 | 97,173 | 46,999 | 6,488 | 18,165 | 42,925 | 2.23 |
| 2,500 | 101,329 | 46,999 | 6,675 | 21,570 | 44,773 | 2.33 |
| 3,000 | 104,472 | 46,999 | 6,816 | 24,683 | 46,170 | 2.41 |
| 4,000 | 109,025 | 46,999 | 7,021 | 30,319 | 48,194 | 2.54 |
| 5,000 | 112,234 | 46,999 | 7,165 | 35,387 | 49,621 | 2.64 |
| 10,000 | 120,608 | 46,999 | 7,542 | 56,053 | 53,343 | 2.99 |

* Reflects trend to an average accident date of December 1, 2009 and development to ultimate maturity. Calculated from continuous indemnity model described in Section C.

** Reflects only per-occurrence limitation. Derived by taking the ratio of columns [(2) + (3) + (4) + (5) + (6)] at the policy limit to columns [(2) + (3) + (4) + (5) + (6)] at the basic limit (\$100,000).

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION C - SUPPORTING MATERIAL - INDEMNITY

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

OVERVIEW

In this document, we use the term "indemnity" to mean the amount paid to the claimant (excluding all loss adjustment expense). Indemnity is subject to policy limits. We construct an occurrence size distribution that describes the indemnity before the effect of policy limits. By using this distribution we can calculate expected future indemnity under any given policy limit.

STATE GROUPS

For Premises/Operations, we review the data by state or state group. Only the largest states have sufficient volume to review individually. In 2004, ISO revised the state group structure and credibility procedure. The largest 14 states are reviewed individually. The remaining 38 jurisdictions are grouped into a three-tiered state group structure to accommodate relatively low, medium, and high ILF state groups - State Group A, B, and C. State Group A is comprised of the lowest ILF states; State Group C is comprised of the highest ILF states; and State Group B contains the remainder of the states.

To generate the complements of credibility, we group each of the individually reviewed states with either State Group A, B or C creating three larger state group complements encompassing all states. State group experience is now combined with the corresponding state group complement experience at each layer of loss to enhance the stability of the increased limit factors. This is an application of the standard actuarial practice of credibility-weighting, which is described in greater detail on page C-12 of this filing. For a definition of the state group complements (referred to as A', B' and C'), please see page C-12.

Additionally, for the following calculations we have exclusively used multistate (all state groups) experience:

- Unallocated Loss Adjustment Expense
- Severity Trend

For Premises/Operations we reviewed this state in State Group B. This group consists of sixteen small and medium-sized states with similar historical loss distributions. For Products/Completed Operations, we continue to review the data on a multistate basis and smooth the experience at limits above the truncation point. This is because the data is sparser and the loss exposure is more likely to encompass multiple states.

Overall and by-table indicated changes for Premises/Operations and Products/Completed Operations are calculated using state group weights.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

DATA FOR
ESTIMATING
INDEMNITY

The limited average severity in this increased limits review is modeled using loss data reported to ISO under the Commercial Statistical Plan. The data includes paid (settled) occurrences on occurrence-coverage policies with accident dates between January 1, 1993 and December 31, 2006, and average payment dates between January 1, 2002 and December 31, 2006. The data is evaluated as of March 31, 2007.

We include additional data from the ISO Annual Call for Excess and Umbrella Policy Claims. This data enhances the credibility of our ILFs in the highest layers of loss that we evaluate. The Excess and Umbrella data includes paid (settled) occurrences with accident dates between January 1, 1993 and December 31, 2006, and average payment dates between January 1, 1994 and December 31, 2006. The data is evaluated as of March 31, 2007. Thirteen years of paid (settled) data are included to further enhance credibility at higher layers. We now also include excess and umbrella data reported under the Commercial Statistical Plan (starting with the 2008 review), to add greater credibility to higher layer analysis.

We consider an occurrence to be settled if it has no outstanding reserve. If there are multiple payments, we consider the average payment date to be the dollar-weighted average of the dates of the individual payments.

For each occurrence we determine the severity table, accident year, payment lag (described later), indemnity amount, policy limit, and any applicable deductible or attachment point.

MIXED
EXPONENTIAL
MODEL

For each table, we fit a continuous distribution to the lag-weighted occurrence-size distribution from the data. The resulting distribution produces the limited average severity component of the increased limit factor.

Using a continuous distribution (such as the mixed exponential) offers several advantages over using a purely empirical fit, including:

- calculation of limited average severity for all possible limits
- smoothing of data
- simplified handling of trend, and
- calculation of higher moments used in risk load.

The fitting procedure uses a mixture of exponential distributions to model indemnity which allows greater flexibility than the previously-used mixed Pareto and truncated Pareto distributions. ISO found that the mixed exponential distribution provides a good fit to empirical data over a wide range of loss sizes, is flexible and is simple to use.

OVERVIEW OF
MIXED
EXPONENTIAL
PROCESS

The major steps in the calculation of Limited Average Severities of the indemnity are:

1. Trend

Trending occurrence sizes to reflect the expected conditions during the period when the increased limit factors are assumed to be in effect.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

OVERVIEW OF
MIXED
EXPONENTIAL
PROCESS
(continued)

2. Construction of the Empirical Survival Distributions

Using the trended data to calculate the empirical survival distributions by payment lag for each table and state group (for Premises/Operations).

3. Payment Lag Process

Combining the empirical distributions for each payment lag to produce an overall empirical survival distribution for each table and state group (for Premises/Operations).

4. Tail of the Distribution

Smoothing the tail of the lag-weighted empirical survival distribution for each table separately for each of the larger state group complements (for Premises/Operations).

5. Combining State Group data with State Group Complement data

Credibility-weighting the Premises/Operations state group experience with the experience of the corresponding state group complement.

6. Fitting a Mixed Exponential Distribution

Fitting a mixed exponential model to the empirical survival distribution.

7. Final Limited Average Severities

Using the fitted mixed exponential distribution to generate limited average severities for the various policy limits.

INDEMNITY
SEVERITY
TREND

For a given payment lag, we expect severity to increase by the inflation rate from accident year to accident year.

If annual inflation is 4.0%, an injury that results in a \$100,000 paid claim in 2005 should cost $1.04 \times \$100,000$ in 2006. The probability of that particular accident stays the same - only the nominal value of it changes.

To bring different accident years to the same level, we project each occurrence from the average date of its accident year to December 1, 2009, one year beyond the assumed effective date of December 1, 2008. In this review, we selected an annual trend of +7.0% for Premises/Operations and +8.5% for Products/Completed Operations based on the review of trend indications described below.

TREND
SELECTION

We selected annual severity trend factors based on the data from the underlying paid loss development triangles from this increased limits review, with consideration given to the data underlying the basic limit loss cost review's trend analysis. Trend indications are currently reviewed on a multistate basis. Manually Rated classes and A-Rated classes as well as Composite Rated Risk classes are included in the increased limits development triangles for all significant types of loss related to Commercial General Liability.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

TREND
SELECTION
(continued)

The overall annual indicated rates of change based on developed total limits average severities, as well as basic limits selected severity trends, are shown on page C-17, separately for Premises/Operations and Products/Completed Operations. We also provide a measure of the goodness-of-fit statistic for the various multi-year trend fits. For the 2008 increased limits review, we selected annual trend rates of +7.0% and +8.5% for Premises/Operations and Products/Completed Operations, respectively. This compares to trends of +6.5% for Premises/Operations and +8.5% for Products/Completed Operations in the 2007 increased limits review.

CONSTRUCTION
OF THE
EMPIRICAL
SURVIVAL
DISTRIBUTIONS

The construction of the empirical survival distributions is based on the Kaplan-Meier product-limit estimator described in Loss Models: From Data to Decisions¹. First, paid (settled) occurrences are organized by accident year and payment lag and trended to the average accident date for which the loss distribution is desired.

Payment lags seven and beyond generally have similar loss sizes and are combined to increase credibility. Other lags are handled separately. We define payment lag and explain the reasons for its use later in this section.

Next, a survival distribution is constructed for each payment lag using discrete loss size layers. The probability that an occurrence exceeds the upper bound of a discrete layer given that it exceeds the lower bound of the layer is known as the conditional survival probability (CSP). The ground-up survival distribution is generated by multiplying the successive CSPs of the discrete layers.

This procedure allows for the easy inclusion of censored losses as well as excess, umbrella, and deductible data. Two conditions must be met in order for a particular occurrence to be used in the calculation of the conditional survival probability in a particular layer of loss. These conditions are:

- The policy limit (plus attachment point or deductible) must be greater than or equal to the upper bound of the layer of loss. This avoids a downward severity bias by excluding losses that are precluded by their policy limit from penetrating the upper bound of a layer of loss.
- Only those occurrences with attachment points or deductibles less than or equal to the lower bound of the layer of loss are included. This condition is necessary to avoid an upward severity bias since loss information below the attachment point or deductible is not known.

¹ Klugman, S. A., H.H. Panjer, and G. E. Willmot, *Loss Models: From Data to Decisions*, John Wiley and Sons, New York, 1998

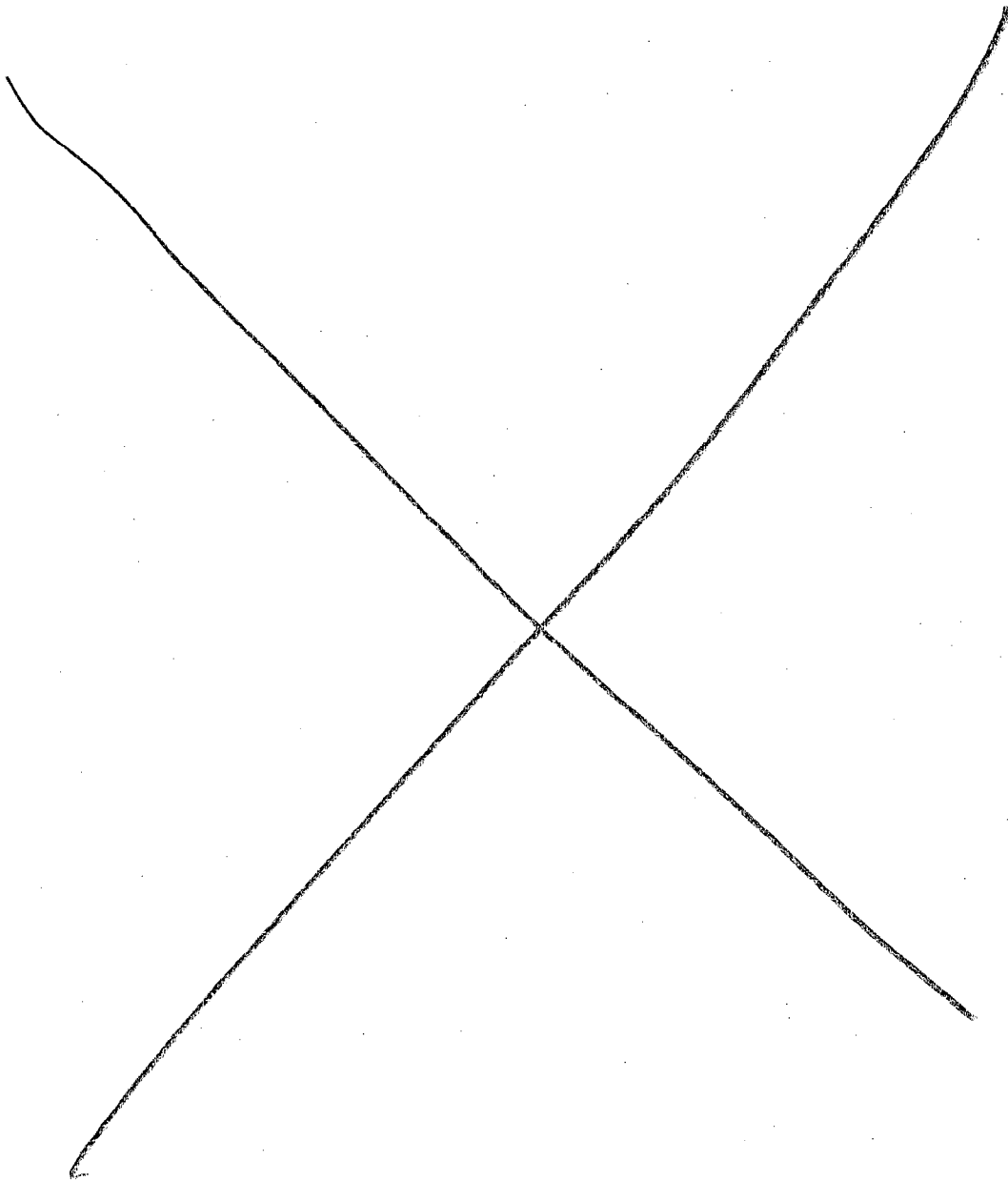
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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

ILLUSTRATION An illustration should aid in the conceptual understanding of this construction.

Assume we have twelve occurrences, all for a single payment lag. We will calculate the empirical survival probabilities for three layers using combinations of conditional survival probabilities. The three layers used are \$10,000, \$20,000, and \$40,000 (in practice we begin with layers as small as \$10 - but larger layers better illustrate the handling of deductibles and policy limits). The following two pages display sample calculations for these three layers.



INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

MIXED EXPONENTIAL PARAMETERS^a

PREMISES/OPERATIONS LIABILITY - STATE GROUP B

TABLE 1

| Means | Weights |
|------------|----------|
| 971 | 0.458552 |
| 4,153 | 0.277949 |
| 12,427 | 0.155807 |
| 49,929 | 0.083341 |
| 153,536 | 0.014389 |
| 334,398 | 0.007423 |
| 984,137 | 0.001954 |
| 2,815,606 | 0.000433 |
| 7,308,359 | 0.000112 |
| 20,518,446 | 0.000033 |
| 95,508,568 | 0.000007 |

TABLE 2

| Means | Weights |
|-------------|----------|
| 1,329 | 0.393310 |
| 5,482 | 0.331708 |
| 21,046 | 0.167641 |
| 88,883 | 0.082068 |
| 410,579 | 0.018656 |
| 1,062,808 | 0.005029 |
| 3,089,429 | 0.001173 |
| 7,925,414 | 0.000298 |
| 21,641,777 | 0.000095 |
| 100,000,000 | 0.000022 |

TABLE 3

| Means | Weights |
|-------------|----------|
| 2,382 | 0.561315 |
| 14,496 | 0.278076 |
| 81,978 | 0.118216 |
| 562,743 | 0.037887 |
| 2,277,322 | 0.003606 |
| 6,992,705 | 0.000688 |
| 21,007,834 | 0.000174 |
| 100,000,000 | 0.000038 |

PRODUCTS/COMPLETED OPERATIONS LIABILITY - MULTISTATE

TABLE A

| Means | Weights |
|-------------|----------|
| 4,171 | 0.384858 |
| 1,214 | 0.353148 |
| 15,392 | 0.154529 |
| 45,382 | 0.058687 |
| 133,926 | 0.033832 |
| 533,038 | 0.011806 |
| 1,541,352 | 0.002359 |
| 4,002,244 | 0.000555 |
| 9,295,359 | 0.000155 |
| 22,947,719 | 0.000057 |
| 100,000,000 | 0.000014 |

TABLE B

| Means | Weights |
|-------------|----------|
| 6,827 | 0.329498 |
| 1,961 | 0.272141 |
| 24,843 | 0.212829 |
| 78,728 | 0.081887 |
| 161,271 | 0.069639 |
| 774,528 | 0.028857 |
| 2,604,233 | 0.004031 |
| 7,458,915 | 0.000849 |
| 21,620,176 | 0.000222 |
| 100,000,000 | 0.000047 |

TABLE C

| Means | Weights |
|-------------|----------|
| 8,857 | 0.344892 |
| 33,453 | 0.196448 |
| 1,825 | 0.179094 |
| 101,622 | 0.171290 |
| 494,744 | 0.084682 |
| 1,421,017 | 0.017578 |
| 3,673,518 | 0.004237 |
| 8,644,526 | 0.001236 |
| 22,276,170 | 0.000437 |
| 100,000,000 | 0.000106 |

^a Model parameters are based on an average accident date of December 1, 2009.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

COMPARISON OF LIMITED AVERAGE SEVERITIES

Premises/Operations - State Group B - Table 1

| Policy Limit (\$,000) | Trended Empirical LAS ^a | Indicated LAS (fitted) | Percent Difference |
|-----------------------------|--|------------------------------|-----------------------|
| 100 | 9,073 | 9,077 | 0.0% |
| 200 | 10,804 | 10,815 | 0.1% |
| 250 | 11,309 | 11,324 | 0.1% |
| 300 | 11,711 | 11,726 | 0.1% |
| 500 | 12,765 | 12,785 | 0.2% |
| 1,000 | 13,970 | 13,996 | 0.2% |
| 1,500 | 14,551 | 14,578 | 0.2% |
| 2,000 | 14,919 | 14,946 | 0.2% |
| 2,500 | 15,181 | 15,208 | 0.2% |
| 3,000 | 15,381 | 15,407 | 0.2% |
| 4,000 | 15,668 | 15,695 | 0.2% |
| 5,000 | 15,871 | 15,898 | 0.2% |
| 10,000 | 16,406 | 16,433 | 0.2% |

Premises/Operations - State Group B - Table 2

| Policy Limit (\$,000) | Trended Empirical LAS ^a | Indicated LAS (fitted) | Percent Difference |
|-----------------------------|--|------------------------------|-----------------------|
| 100 | 13,053 | 13,058 | 0.0% |
| 200 | 16,551 | 16,575 | 0.1% |
| 250 | 17,689 | 17,723 | 0.2% |
| 300 | 18,624 | 18,658 | 0.2% |
| 500 | 21,285 | 21,280 | 0.0% |
| 1,000 | 24,792 | 24,809 | 0.1% |
| 1,500 | 26,631 | 26,638 | 0.0% |
| 2,000 | 27,753 | 27,774 | 0.1% |
| 2,500 | 28,555 | 28,570 | 0.1% |
| 3,000 | 29,162 | 29,173 | 0.0% |
| 4,000 | 30,029 | 30,044 | 0.0% |
| 5,000 | 30,646 | 30,662 | 0.1% |
| 10,000 | 32,297 | 32,313 | 0.0% |

^a For Premises/Operations, Empirical Limited Average Severities reflect credibility-weighting with state group complement data. For Premises/Operations and Products/Completed Operations, Empirical Limited Average Severities reflect tail smoothing.

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

COMPARISON OF LIMITED AVERAGE SEVERITIES

Premises/Operations - State Group B - Table 3

| Policy Limit (\$,000) | Trended Empirical LAS ^a | Indicated LAS (fitted) | Percent Difference |
|-----------------------------|--|------------------------------|-----------------------|
| 100 | 16,103 | 16,107 | 0.0% |
| 200 | 21,415 | 21,460 | 0.2% |
| 250 | 23,288 | 23,323 | 0.2% |
| 300 | 24,875 | 24,899 | 0.1% |
| 500 | 29,661 | 29,645 | -0.1% |
| 1,000 | 36,474 | 36,541 | 0.2% |
| 1,500 | 40,087 | 40,096 | 0.0% |
| 2,000 | 42,145 | 42,173 | 0.1% |
| 2,500 | 43,506 | 43,551 | 0.1% |
| 3,000 | 44,533 | 44,566 | 0.1% |
| 4,000 | 46,025 | 46,035 | 0.0% |
| 5,000 | 47,082 | 47,092 | 0.0% |
| 10,000 | 49,870 | 49,896 | 0.1% |

Products/Completed Operations - Multistate - Table A

| Policy Limit (\$,000) | Trended Empirical LAS ^a | Indicated LAS (fitted) | Percent Difference |
|-----------------------------|--|------------------------------|-----------------------|
| 100 | 10,551 | 10,544 | -0.1% |
| 200 | 13,144 | 13,121 | -0.2% |
| 250 | 13,999 | 13,986 | -0.1% |
| 300 | 14,714 | 14,700 | -0.1% |
| 500 | 16,746 | 16,707 | -0.2% |
| 1,000 | 19,413 | 19,376 | -0.2% |
| 1,500 | 20,844 | 20,797 | -0.2% |
| 2,000 | 21,727 | 21,684 | -0.2% |
| 2,500 | 22,346 | 22,301 | -0.2% |
| 3,000 | 22,811 | 22,765 | -0.2% |
| 4,000 | 23,481 | 23,433 | -0.2% |
| 5,000 | 23,950 | 23,902 | -0.2% |
| 10,000 | 25,165 | 25,114 | -0.2% |

^a For Premises/Operations, Empirical Limited Average Severities reflect credibility-weighting with state group complement data. For Premises/Operations and Products/Completed Operations, Empirical Limited Average Severities reflect tail smoothing.

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - INDEMNITY

COMPARISON OF LIMITED AVERAGE SEVERITIES

Products/Completed Operations - Multistate - Table B

| Policy Limit (\$,000) | Trended Empirical LAS ^a | Indicated LAS (fitted) | Percent Difference |
|-----------------------------|--|------------------------------|-----------------------|
| 100 | 21,042 | 21,016 | -0.1% |
| 200 | 28,101 | 28,072 | -0.1% |
| 250 | 30,532 | 30,497 | -0.1% |
| 300 | 32,558 | 32,507 | -0.2% |
| 500 | 38,283 | 38,239 | -0.1% |
| 1,000 | 46,402 | 46,336 | -0.1% |
| 1,500 | 51,069 | 51,017 | -0.1% |
| 2,000 | 54,126 | 54,043 | -0.2% |
| 2,500 | 56,238 | 56,134 | -0.2% |
| 3,000 | 57,745 | 57,672 | -0.1% |
| 4,000 | 59,910 | 59,832 | -0.1% |
| 5,000 | 61,426 | 61,335 | -0.1% |
| 10,000 | 65,357 | 65,271 | -0.1% |

Products/Completed Operations - Multistate - Table C

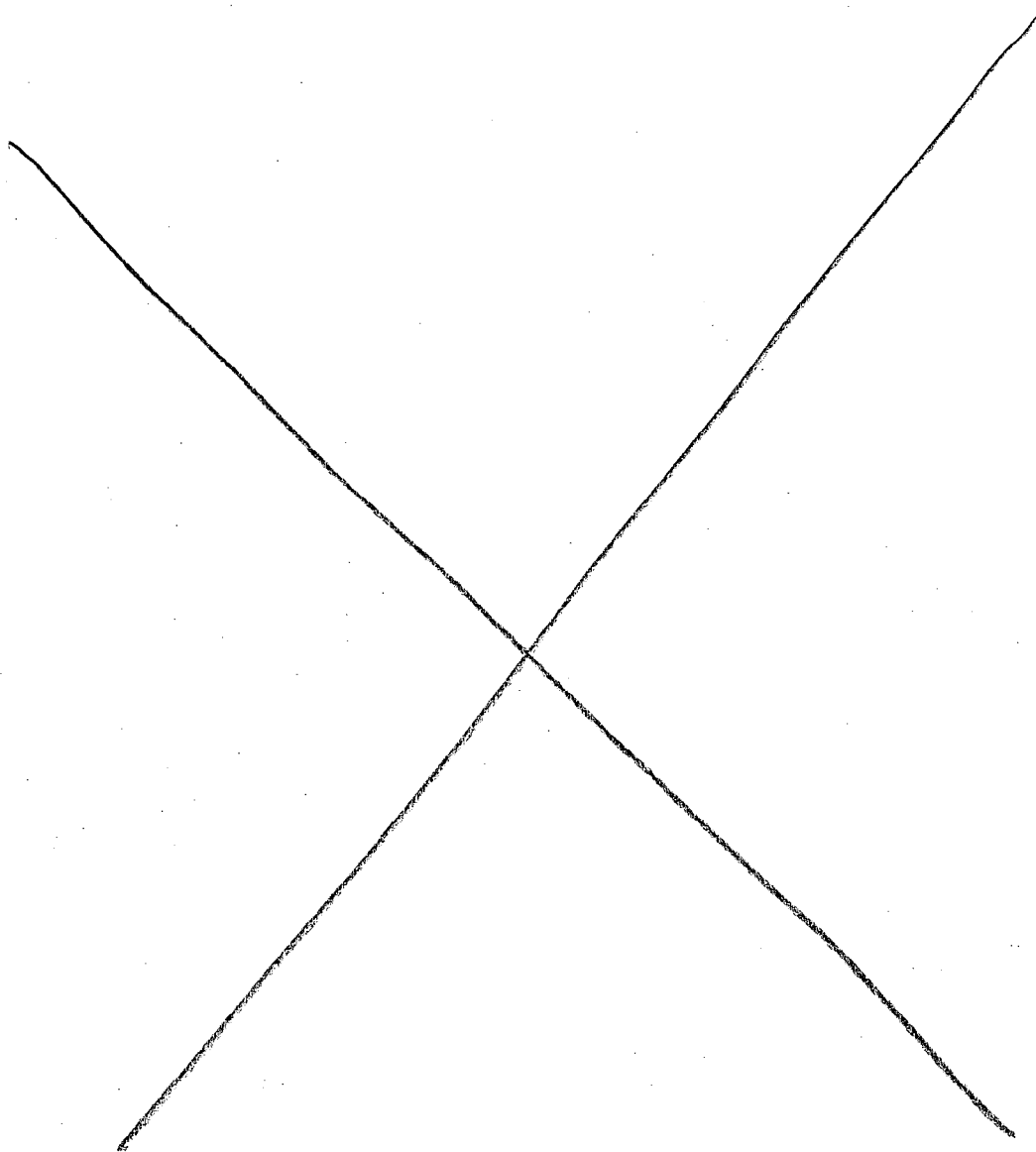
| Policy Limit (\$,000) | Trended Empirical LAS ^a | Indicated LAS (fitted) | Percent Difference |
|-----------------------------|--|------------------------------|-----------------------|
| 100 | 30,549 | 30,482 | -0.2% |
| 200 | 43,295 | 43,299 | 0.0% |
| 250 | 48,010 | 47,982 | -0.1% |
| 300 | 52,051 | 52,000 | -0.1% |
| 500 | 64,183 | 64,139 | -0.1% |
| 1,000 | 81,779 | 81,734 | -0.1% |
| 1,500 | 91,307 | 91,234 | -0.1% |
| 2,000 | 97,231 | 97,173 | -0.1% |
| 2,500 | 101,399 | 101,329 | -0.1% |
| 3,000 | 104,552 | 104,472 | -0.1% |
| 4,000 | 109,104 | 109,025 | -0.1% |
| 5,000 | 112,307 | 112,234 | -0.1% |
| 10,000 | 120,689 | 120,608 | -0.1% |

^a For Products/Completed Operations, Empirical Limited Average Severities reflect tail smoothing.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION D - SUPPORTING MATERIAL - ALLOCATED LOSS ADJUSTMENT EXPENSES

| | |
|---|-------|
| Overview | D2 |
| Calculation of Allocated Loss Adjustment Expense Per Occurrence | D3-D4 |



INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - ALLOCATED LOSS ADJUSTMENT EXPENSES

OVERVIEW

The standard liability policy contains a policy limit which represents the maximum amount an insurer will pay for any loss for which the insured is liable. However, the limit does not apply to the loss adjustment expenses. For this reason, we estimate ALAE per occurrence as a single amount that does not vary by policy limit.

For each table, we estimate allocated loss adjustment expense (ALAE) per occurrence as the product of two numbers. The first number is the ratio of paid ALAE to paid total limits (all limits combined) indemnity. The second number is the average (across all policy limits) limited average severity calculated from the mixed exponential model.

In order to calculate the ALAE per occurrence, we first calculate the ratio of dollars of ALAE to dollars of total limits indemnity for the seven next-to-latest available accident years (the latest accident year is excluded from the average because its development tends to be less stable). We develop these ratios to ultimate maturity.

In 2006 we revised our calculation procedure for estimating the ALAE to total limits indemnity loss ratios. The revised procedure uses a triangle of incremental ALAE emergence (at each evaluation) as a percentage of ultimate total limits indemnity losses to determine additive incremental ALAE emergence ratios. Specifically, "incremental ALAE percentages" are calculated as the emergence of ALAE between two evaluation points, divided by ultimate paid indemnity losses. For example, the difference between historic ALAE evaluated at 27 months and ALAE evaluated at 15 months is expressed as a percentage of ultimate incurred indemnity losses. Similar percentages are calculated for the 27-to-39 month period, the 39-to-51 month period, etc. These percentages are summed, then combined with the ratios from the most recent diagonals, to determine the ratios of ALAE to total limits indemnity at ultimate.

Previously we calculated a triangle of cumulative ALAE to total limits indemnity ratios (by year and evaluation), and used the resulting multiplicative age-to-age link-ratios to determine ALAE-indemnity ratios at ultimate. The revised incremental ALAE procedure is similar to the procedure used in the General Liability basic limit review, and is expected to provide more stable ALAE provisions from review to review.

To further enhance stability we use a best 5-of-7 criterion and eliminate the lowest and highest paid ratios. We then average the best 5-of-7 paid ratios to determine the overall ALAE to total limits indemnity ratio for each table.

The fitted total limits average severity for each table is a weighted-average of the limited average severities at the different policy limits. The weights used are occurrences from the second, third, and fourth latest accident years.

For each table, the multi-year average ALAE to total limits indemnity ratio is then multiplied by the final fitted total limits average severity in order to calculate the ALAE per occurrence provision for use in computing increased limit factors. The total limits average severity reflects trend to the average prospective accident date. This effectively contemplates trend in ALAE in a more stable manner than relying on a separate trend analysis of ALAE. See the following pages for the ALAE calculations.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF ALLOCATED LOSS ADJUSTMENT EXPENSE PER OCCURRENCE

Premises/Operations Liability - State Group B

Ratios of ALAE to Total Limits (TL) Indemnity - Paid Data

| Accident Year | Table 1 | Table 2 | Table 3 |
|------------------|----------------|----------------|----------------|
| 1999 | 0.26702 | 0.29976 | 0.25434 |
| 2000 | 0.22075 | 0.28618 | 0.29784 |
| 2001 | 0.23155 | 0.31657 | 0.39246 |
| 2002 | 0.24862 | 0.32012 | 0.35694 |
| 2003 | 0.24022 | 0.35023 | 0.33793 |
| 2004 | 0.25150 | 0.32770 | 0.38129 |
| 2005 | <u>0.25814</u> | <u>0.31528</u> | <u>0.35515</u> |
| Best 5 of 7 | 0.24601 | 0.31589 | 0.34583 |

Indicated ALAE per Occurrence

| Table | (1) ALAE per Total Limits Indemnity | (2) Mixed Exponential Total Limits Average Severity | (1) x (2) ALAE per Occurrence |
|-------|--|--|-------------------------------------|
| 1 | 0.24601 | 14,018 | 3,449 |
| 2 | 0.31589 | 24,838 | 7,846 |
| 3 | 0.34583 | 36,362 | 12,575 |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF ALLOCATED LOSS ADJUSTMENT EXPENSE PER OCCURRENCE

Products/Completed Operations Liability - Multistate

Ratios of ALAE to Total Limits (TL) Indemnity - Paid Data

| Accident Year | Table A | Table B | Table C |
|------------------|----------------|----------------|----------------|
| 1999 | 0.52551 | 0.64516 | 0.49675 |
| 2000 | 0.60065 | 0.60176 | 0.58895 |
| 2001 | 0.59760 | 0.64054 | 0.59746 |
| 2002 | 0.59350 | 0.63505 | 0.60129 |
| 2003 | 0.60121 | 0.62485 | 0.56918 |
| 2004 | 0.55815 | 0.64783 | 0.57382 |
| 2005 | <u>0.56726</u> | <u>0.63314</u> | <u>0.56840</u> |
| Best 5 of 7 | 0.58343 | 0.63575 | 0.57956 |

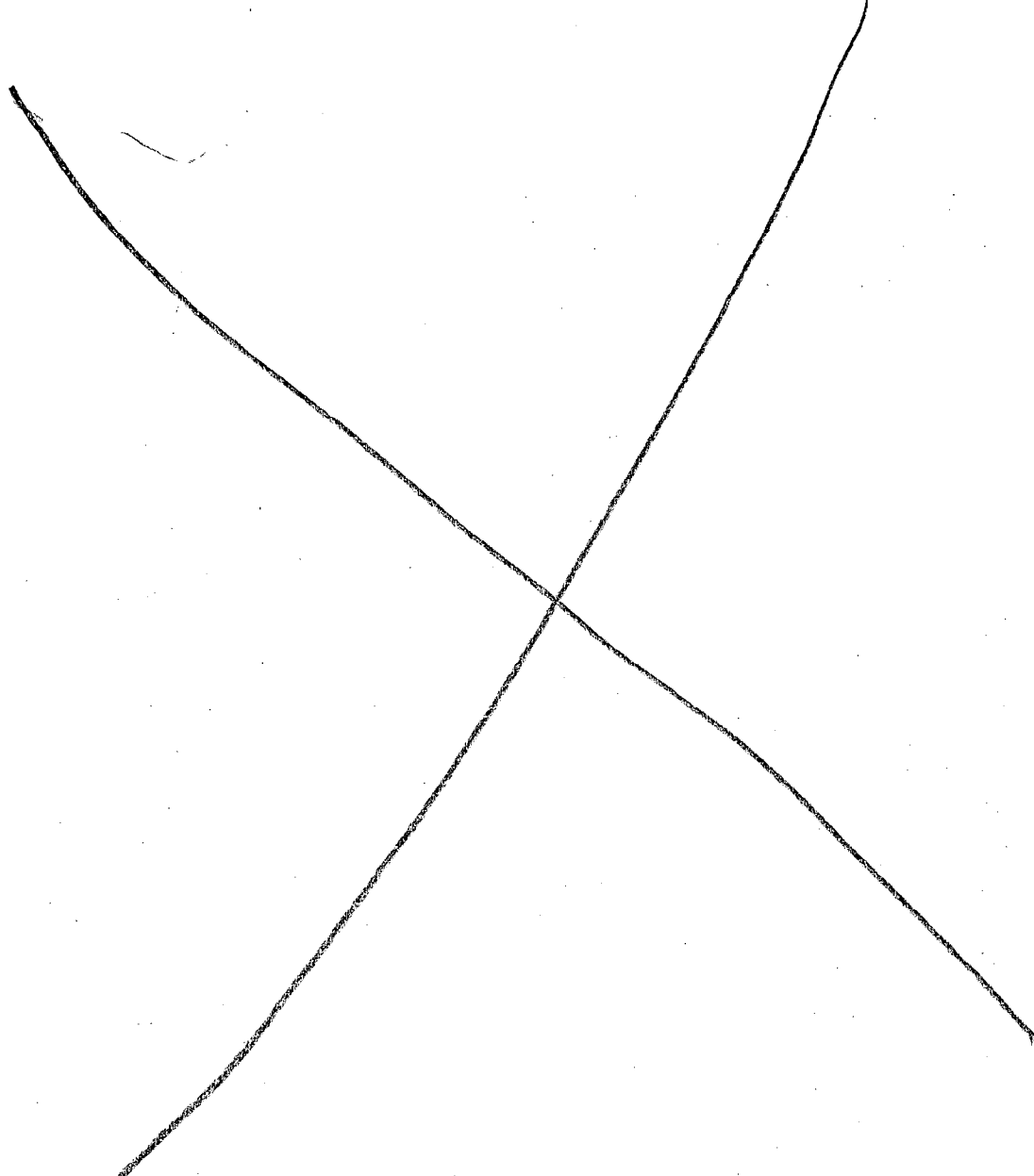
Indicated ALAE per Occurrence

| Table | (1) ALAE per Total Limits <u>Indemnity</u> | (2) Mixed Exponential Total Limits <u>Average Severity</u> | (1) x (2) ALAE per <u>Occurrence</u> |
|-------|---|---|--|
| A | 0.58343 | 19,250 | 11,231 |
| B | 0.63575 | 45,880 | 29,168 |
| C | 0.57956 | 81,095 | 46,999 |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION E - SUPPORTING MATERIAL - UNALLOCATED LOSS ADJUSTMENT EXPENSES

| | |
|---|----|
| Overview | E2 |
| Development of Unallocated Loss Adjustment Expense Factor | E3 |



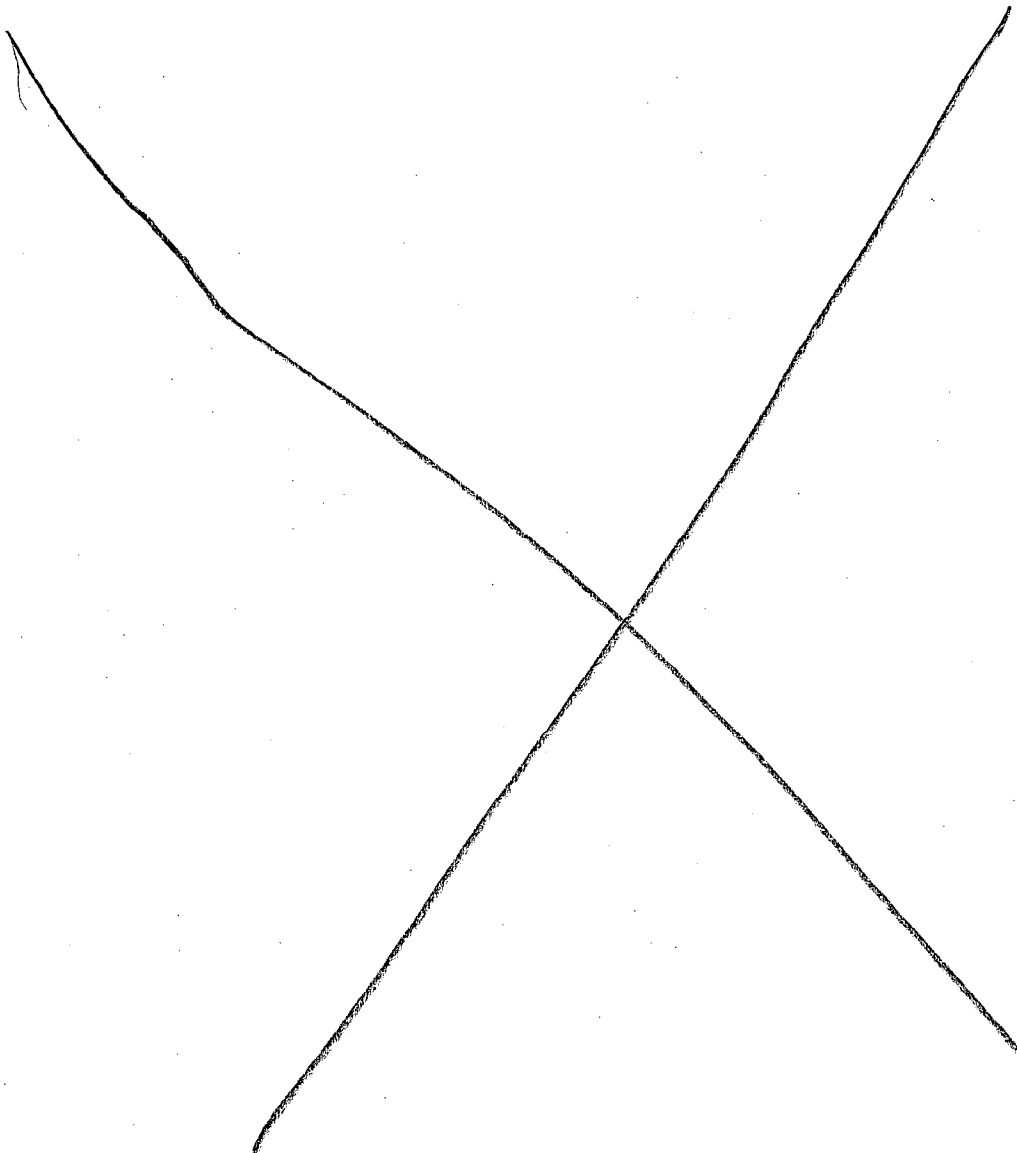
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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUPPORTING MATERIAL - UNALLOCATED LOSS ADJUSTMENT EXPENSES

OVERVIEW

We calculate the unallocated loss adjustment expense at each limit of liability as a percentage of the sum of the limited average severity and the ALAE at that liability limit. We select the ULAE load of 4.5% based on a five-year average of multistate financial data reported to ISO. See the following page for the derivation of this factor.



INCREASED LIMIT FACTORS
GENERAL LIABILITY

DEVELOPMENT OF UNALLOCATED LOSS ADJUSTMENT EXPENSE FACTOR

General Liability Excluding Medical Professional Liability
Multistate Expense Experience
Loss Adjustment Expense Special Call

| <u>ITEM^a</u> | <u>CALENDAR YEAR</u> | | | | |
|--|----------------------|-------------|-------------|-------------|-------------|
| | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> |
| (1) Direct Losses Incurred | 17,316,648 | 18,078,086 | 20,621,418 | 18,828,196 | 14,816,398 |
| (2) Allocated Loss Adjustment Expenses Incurred (ALAE) | 3,142,207 | 3,804,652 | 5,078,430 | 5,265,077 | 4,050,421 |
| (3) Unallocated Loss Adjustment Expenses Incurred (ULAE) | 902,763 | 1,011,316 | 1,002,177 | 1,061,548 | 989,764 |
| (4) Incurred Losses + ALAE [(1) + (2)] | 20,458,856 | 21,882,737 | 25,699,848 | 24,093,273 | 18,866,819 |
| Incurred Percentage ^b | | | | | |
| (5) ULAE as Ratio to (Losses + ALAE) [(3) / (4)] | 4.4% | 4.6% | 3.9% | 4.4% | 5.2% |

Selected ULAE Factor:

4.5%

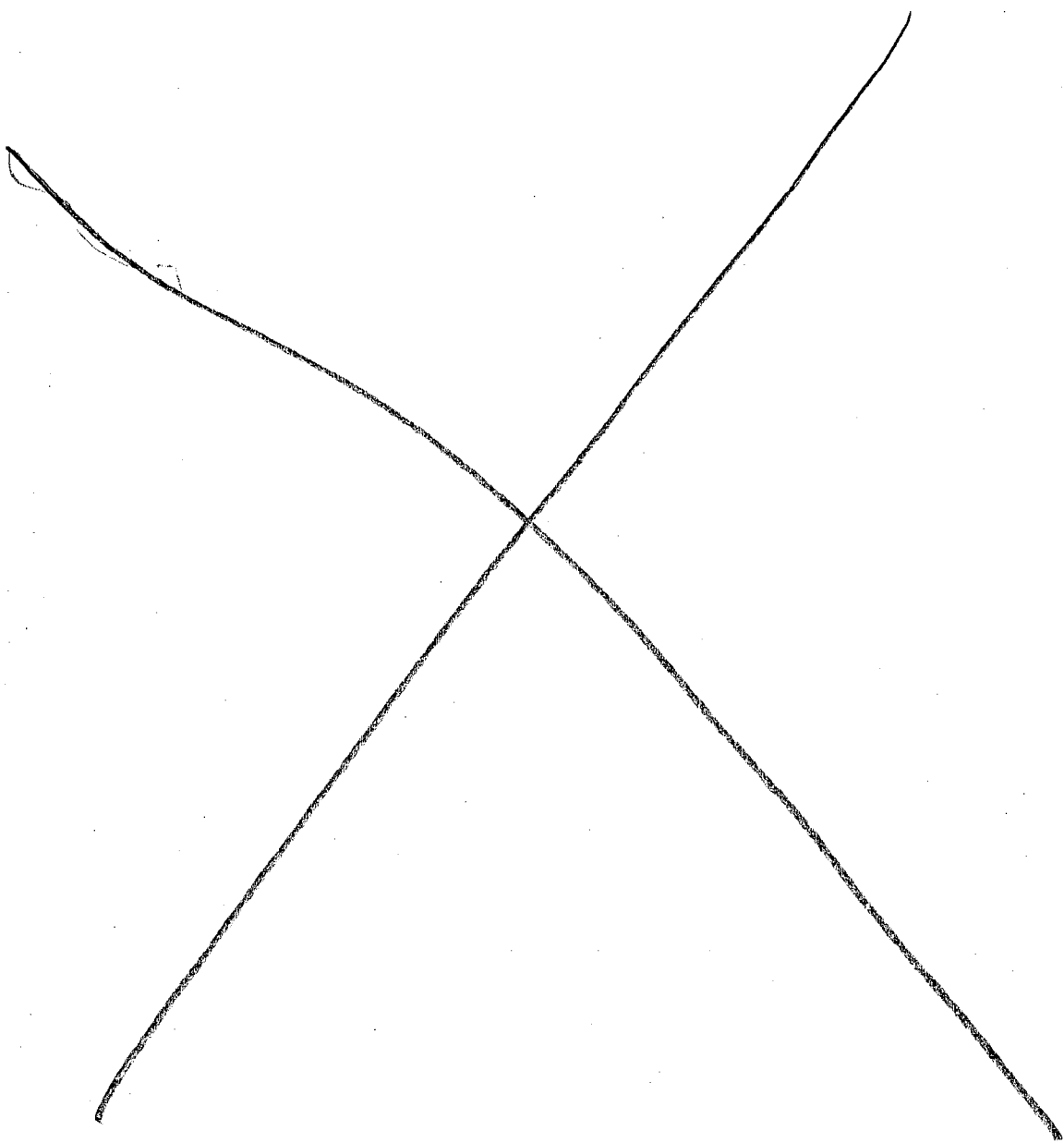
^a Items (1) - (3) are from an ISO special call submission for available writers. All dollar amounts are displayed in thousands.

^b Incurred percentages are calculated on a direct basis.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION F - SUPPORTING MATERIAL - RISK LOAD

| | |
|---|-------|
| Overview | F2 |
| Risk Load Formulas and Parameters | F3-F6 |



INCREASED LIMIT FACTORS GENERAL LIABILITY

SUPPORTING MATERIAL - RISK LOAD

OVERVIEW

Our increased limits methodology incorporates a procedure to reflect the relatively higher risk or variation in experience associated with higher limit policies. The model that we use, the Competitive Market Equilibrium Risk Load Model,¹ assumes that the insurance marketplace is competitive and efficient. In a competitive marketplace, individual insurers cannot influence the marketplace price. While individual insurers cannot influence the risk associated with a given policy limit, they will attempt to maximize their expected net revenue by choosing which lines and policy limits to write. This assumption is consistent with rational economic behavior and is reinforced by solvency regulation.

In an efficient marketplace, the supply of insurance matches the demand. ISO uses the distribution of basic limit losses by policy limit to represent the market demand for insurance at each limit. The model determines a set of risk loads that match supply and demand at each policy limit.

The variability of losses is caused by process risk and parameter risk:

- Process risk reflects the inherent uncertainty of the insurance process. Even if one could estimate expected losses exactly, actual losses will almost certainly differ from the expected. We derive the process risk component from the parameters of the indemnity severity distribution.
- Parameter risk reflects the risk of not estimating expected losses accurately. The derivation of the parameter risk component is based on the historical variation of losses.

These two risk elements combined comprise the total risk load at each policy limit.

The risk load formulas use a parameter, lambda (λ), which governs the total amount of risk load over all policy limits for (non-professional) commercial liability tables. We determine lambda so that the ratio of the average indicated increased limit factor with risk load to the average indicated increased limit factor without risk load is equal to 1.06 for all General and Commercial Automobile Liability tables combined. For this state group, this ratio is 1.049 and 1.106 for Premises/Operations and Products/Completed Operations Liability, respectively.

¹ Meyers, G. G., *Competitive Market Equilibrium Risk Load Model for Increased Limits Ratemaking*, Proceedings of the Casualty Actuarial Society, Volume LXXVIII, 1991

INCREASED LIMIT FACTORS
GENERAL LIABILITY

RISK LOAD FORMULAS AND PARAMETERS

The following are the formulas underlying ISO's risk load model.

The risk load formulas incorporate parameter risk using a parameter transformation. In the following formulas, we use the notation $AVSEV(PL, \alpha)$ and $SECM(PL, \alpha)$ to represent the limited moments of a transformed loss size distribution. The distribution is transformed by multiplying all occurrences by the constant " α ". $AVSEV$ represents the limited average severity and $SECM$ represents the limited second moment of the transformed distribution. The following formulas represent an approximation of the effect of parameter risk on the severity distribution:

$$AVSEV(PL, \alpha) = \alpha \times LAS(PL/\alpha)$$

$$SECM(PL, \alpha) = \alpha^2 \times SECM(PL/\alpha)$$

The formula for the $LAS(PL)$ and $SECM(PL)$ of a mixed exponential are as follows:

$$LAS(PL) = \sum_i w_i \mu_i [1 - \exp(-PL / \mu_i)]$$
$$SECM(PL) = \sum_i 2 w_i \mu_i^2 \left[1 - \left(1 + \frac{PL}{\mu_i} \right) \exp\left(-\frac{PL}{\mu_i} \right) \right]$$

INCREASED LIMIT FACTORS
GENERAL LIABILITY

RISK LOAD FORMULAS AND PARAMETERS

(1) *Total Risk Load*

The vector of risk load amounts for a particular increased limits table, R , is:

$$R = \lambda[U + 2(V^c \cdot \bar{n}^c + V^a \cdot \bar{n}^a)]$$

where

λ = the factor which reflects the overall impact of risk load over General and Commercial Automobile Liability. ISO selected this parameter so that the average increased limit factor with risk load divided by the average increased limit factor without risk load equals 1.06.

U = the vector of risk elements corresponding to process risk. Its j^{th} component is u_j , corresponding to the j^{th} policy limit.

V^a = the matrix describing severity parameter risk.

Premises/Operations Liability (state group):

\bar{n}^a = the vector of the expected number of occurrences per insurer in the particular increased limits table (within its state group). The j^{th} component of \bar{n}^a is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by n_{bara} , the expected number of occurrences per insurer per state group, in the particular increased limits table, for all limits combined.

Products/Completed Operations Liability (multistate):

\bar{n}^a = the vector of the multistate expected number of occurrences per insurer in the particular increased limits table. The j^{th} component of \bar{n}^a is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by n_{bara} , the multistate expected number of occurrences per insurer, in the particular increased limits table, for all limits combined.

V^c = the matrix describing frequency parameter risk.

Premises/Operations Liability (state group):

\bar{n}^c = the vector of the expected average number of occurrences per insurer per state for all tables combined. The j^{th} component of \bar{n}^c is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by the Premises/Operations n_{barc} , which is the expected average number of occurrences per insurer per state for all tables and limits combined.

Products/Completed Operations Liability (multistate):

\bar{n}^c = the vector of the multistate expected average number of occurrences per insurer for all tables combined. The j^{th} component of \bar{n}^c is computed as follows: the basic limit loss weight for that policy limit in the increased limits table (as a percentage) is multiplied by the Products/Completed Operations n_{barc} , which is the expected average number of occurrences per insurer for all tables and limits combined.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

RISK LOAD FORMULAS AND PARAMETERS

(2) *Process Risk Load*

The process risk component of the risk load is given by $\lambda \times U$. The component u_j , associated with the j^{th} limit, is:

$$u_j = E_{\alpha}[\text{SECM}(PL_j, \alpha)] + d \cdot E_{\alpha}[\text{AVSEV}(PL_j, \alpha)^2]$$

where:

α = random variable with mean 1 and variance a . α represents severity parameter risk.

a = .001 (based on a special ISO study).

$1 + d$ = variance-to-mean ratio for occurrence count distribution, contingent on parameters being known. (In other words, if there were no frequency parameter risk, the variance-to-mean ratio would be $1 + d$.)

E_{α} = expected value across all values of the parameter α .

Let:

$$\alpha_1 = 1 - \sqrt{3a}; \quad \alpha_2 = 1; \quad \alpha_3 = 1 + \sqrt{3a};$$

The Gauss-Hermite approximation² provides a discrete approximation for the expected value of a function $G(\alpha)$ across all values of the normally distributed random variable α :

$$E_{\alpha}[G(\alpha)] = (1/6)G(\alpha_1) + (2/3)G(\alpha_2) + (1/6)G(\alpha_3)$$

for any function $G(\alpha)$.

(3) *Parameter Risk Load*

The parameter risk component of the risk load is given by $\lambda \times 2 \times (V^c \cdot \bar{n}^c + V^a \cdot \bar{n}^a)$.

Evaluation of V^c

v^c_{ij} = element of V^c corresponding to i^{th} limit, j^{th} limit

$$= c \times E_{\alpha}[\text{AVSEV}(PL_i, \alpha) \cdot \text{AVSEV}(PL_j, \alpha)]$$

c = parameter quantifying frequency parameter risk ("c" does for frequency what "a" does for severity). Values vary by line based on a special ISO study.

Evaluation of V^a

v^a_{ij} = element of V^a corresponding to i^{th} limit, j^{th} limit

$$= E_{\alpha}[\text{AVSEV}(PL_i, \alpha) \cdot \text{AVSEV}(PL_j, \alpha)] - E_{\alpha}[\text{AVSEV}(PL_i, \alpha)] \cdot E_{\alpha}[\text{AVSEV}(PL_j, \alpha)]$$

² Ralston, A., *A First Course in Numerical Analysis*, McGraw-Hill, 1965

INCREASED LIMIT FACTORS
GENERAL LIABILITY

RISK LOAD FORMULAS AND PARAMETERS

GENERAL AND COMMERCIAL AUTO LIABILITY

$$\text{Lambda}(\lambda)^a = 1.681\text{E-}07$$

MULTISTATE PARAMETERS

PREMISES/OPERATIONS

| | | |
|----------------------------------|---|-----------|
| d | = | 1 |
| c | = | 0.005 |
| a | = | 0.001 |
| nbarc | = | 350 |
| Lambda(λ) ^a | = | 1.681E-07 |

PRODUCTS/COMPLETED OPERATIONS

| | | |
|----------------------------------|---|-----------|
| d | = | 2 |
| c | = | 0.015 |
| a | = | 0.001 |
| nbarc | = | 1050 |
| Lambda(λ) ^a | = | 1.681E-07 |

VALUES OF nbarc

PREMISES/OPERATIONS - STATE GROUP B

| | |
|---------|--------|
| Table 1 | 178.15 |
| Table 2 | 286.22 |
| Table 3 | 64.59 |

PRODUCTS - MULTISTATE

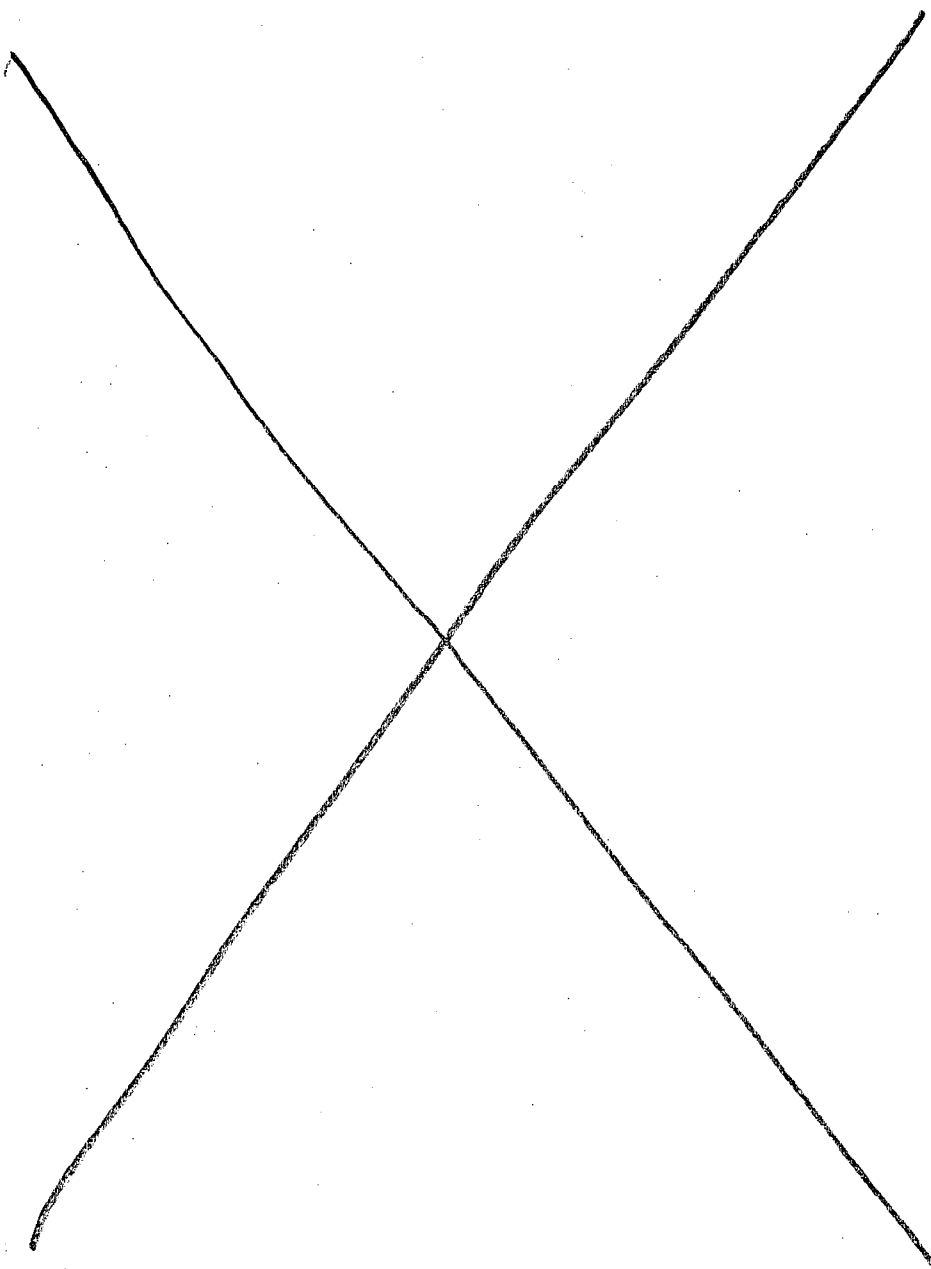
| | |
|---------|--------|
| Table A | 338.21 |
| Table B | 500.53 |
| Table C | 211.26 |

^a ISO determines lambda so that the ratio of the average increased limit factor with risk load to the average increased limit factor without risk load is equal to 1.06 for all states for all (non-professional) commercial liability lines combined.

INCREASED LIMIT FACTORS
GENERAL LIABILITY

SECTION G - INDICATED CHANGES BY TABLE

| | |
|---|-------|
| Summary | G2 |
| Calculation of Indicated Changes by Limit | G3-G6 |



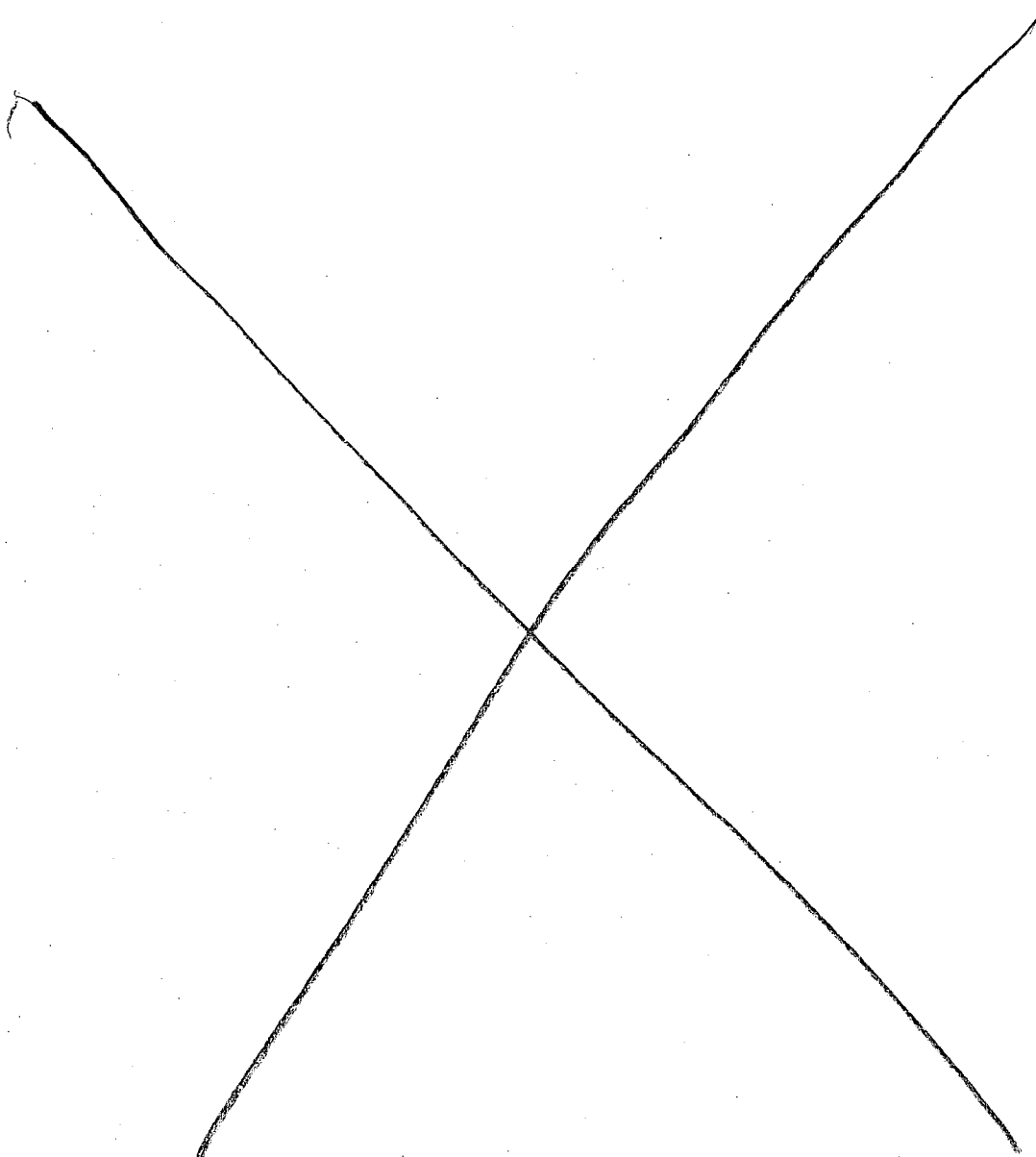
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INCREASED LIMIT FACTORS
GENERAL LIABILITY

SUMMARY

Pages G-3 to G-4 display the indicated changes for Premises/Operations Liability. Pages G-5 to G-6 display the indicated changes for Products/Completed Operations Liability. Current and indicated increased limit factors are shown by policy limit for each table. Average increased limit factors are summarized on pages G-4 and G-6.

Basic limit loss weights are based on indemnity losses (capped at the basic limit) plus ALAE, developed to ultimate, from the second, third, and fourth latest accident years.



INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED CHANGES BY LIMIT
PREMISES/OPERATIONS LIABILITY

TABLE 1

| Policy Limit (\$,000) | State Group Basic Limit Loss Weight | Current Increased Limit Factor | Indicated Increased Limit Factor | Indicated Percent Change |
|-----------------------------|---|--------------------------------------|--|--------------------------------|
| 100 | 0.0019 | 1.00 | 1.00 | 0.0% |
| 200 | 0.0001 | 1.13 | 1.14 | 0.9% |
| 250 | 0.0001 | 1.17 | 1.19 | 1.7% |
| 300 | 0.0130 | 1.20 | 1.22 | 1.7% |
| 500 | 0.0273 | 1.28 | 1.32 | 3.1% |
| 750 | 0.0001 | 1.33 | 1.39 | 4.5% |
| 1,000 | 0.9080 | 1.37 | 1.44 | 5.1% |
| 1,500 | 0.0009 | 1.43 | 1.50 | 4.9% |
| 2,000 | 0.0330 | 1.47 | 1.55 | 5.4% |
| 3,000 | 0.0019 | 1.54 | 1.61 | 4.5% |
| 5,000 | 0.0072 | 1.62 | 1.70 | 4.9% |
| <u>10,000</u> | <u>0.0065</u> | <u>1.75</u> | <u>1.84</u> | <u>5.1%</u> |
| TOTAL | 1.0000 | 1.373 | 1.441 | 5.0% |

TABLE 2

| Policy Limit (\$,000) | State Group Basic Limit Loss Weight | Current Increased Limit Factor | Indicated Increased Limit Factor | Indicated Percent Change |
|-----------------------------|---|--------------------------------------|--|--------------------------------|
| 100 | 0.0046 | 1.00 | 1.00 | 0.0% |
| 200 | 0.0000 | 1.17 | 1.18 | 0.9% |
| 250 | 0.0004 | 1.22 | 1.24 | 1.6% |
| 300 | 0.0128 | 1.27 | 1.28 | 0.8% |
| 500 | 0.0347 | 1.40 | 1.43 | 2.1% |
| 750 | 0.0003 | 1.52 | 1.55 | 2.0% |
| 1,000 | 0.8841 | 1.60 | 1.63 | 1.9% |
| 1,500 | 0.0060 | 1.72 | 1.76 | 2.3% |
| 2,000 | 0.0406 | 1.80 | 1.84 | 2.2% |
| 3,000 | 0.0019 | 1.91 | 1.96 | 2.6% |
| 5,000 | 0.0076 | 2.06 | 2.12 | 2.9% |
| <u>10,000</u> | <u>0.0070</u> | <u>2.31</u> | <u>2.38</u> | <u>3.0%</u> |
| TOTAL | 1.0000 | 1.604 | 1.634 | 1.9% |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED CHANGES BY LIMIT
PREMISES/OPERATIONS LIABILITY

TABLE 3

| Policy Limit (\$,000) | State Group Basic Limit Loss Weight | Current Increased Limit Factor | Indicated Increased Limit Factor | Indicated Percent Change |
|-----------------------------|---|--------------------------------------|--|--------------------------------|
| 100 | 0.0032 | 1.00 | 1.00 | 0.0% |
| 200 | 0.0005 | 1.19 | 1.20 | 0.8% |
| 250 | 0.0000 | 1.25 | 1.27 | 1.6% |
| 300 | 0.0179 | 1.31 | 1.33 | 1.5% |
| 500 | 0.0411 | 1.49 | 1.51 | 1.3% |
| 750 | 0.0009 | 1.65 | 1.69 | 2.4% |
| 1,000 | 0.8667 | 1.77 | 1.81 | 2.3% |
| 1,500 | 0.0007 | 1.94 | 1.99 | 2.6% |
| 2,000 | 0.0527 | 2.07 | 2.10 | 1.4% |
| 3,000 | 0.0018 | 2.23 | 2.25 | 0.9% |
| 5,000 | 0.0073 | 2.46 | 2.45 | -0.4% |
| <u>10,000</u> | <u>0.0072</u> | <u>2.86</u> | <u>2.77</u> | <u>-3.1%</u> |
| TOTAL | 1.0000 | 1.777 | 1.814 | 2.1% |

SUMMARY

| <u>Table</u> | Basic Limit Loss Weight | Current Average Increased Limit Factor | Indicated Average Increased Limit Factor | Indicated Percent Change |
|----------------|----------------------------|---|---|--------------------------------|
| Table 1 | 0.2168 | 1.373 | 1.441 | 5.0% |
| Table 2 | 0.5851 | 1.604 | 1.634 | 1.9% |
| <u>Table 3</u> | <u>0.1981</u> | <u>1.777</u> | <u>1.814</u> | <u>2.1%</u> |
| TOTAL | 1.0000 | 1.588 | 1.628 | 2.5% |

INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED CHANGES BY LIMIT
PRODUCTS/COMPLETED OPERATIONS LIABILITY

TABLE A

| Policy Limit (\$,000) | State Group Basic Limit Loss Weight | Current Increased Limit Factor | Indicated Increased Limit Factor | Indicated Percent Change |
|-----------------------|-------------------------------------|--------------------------------|----------------------------------|--------------------------|
| 100 | 0.0044 | 1.00 | 1.00 | 0.0% |
| 200 | 0.0001 | 1.12 | 1.13 | 0.9% |
| 250 | 0.0000 | 1.17 | 1.17 | 0.0% |
| 300 | 0.0240 | 1.20 | 1.21 | 0.8% |
| 500 | 0.0424 | 1.30 | 1.32 | 1.5% |
| 750 | 0.0002 | 1.38 | 1.41 | 2.2% |
| 1,000 | 0.8653 | 1.44 | 1.48 | 2.8% |
| 1,500 | 0.0004 | 1.53 | 1.57 | 2.6% |
| 2,000 | 0.0504 | 1.58 | 1.63 | 3.2% |
| 3,000 | 0.0008 | 1.66 | 1.72 | 3.6% |
| 5,000 | 0.0112 | 1.76 | 1.84 | 4.5% |
| <u>10,000</u> | <u>0.0008</u> | <u>1.91</u> | <u>2.02</u> | <u>5.8%</u> |
| TOTAL | 1.0000 | 1.438 | 1.477 | 2.7% |

TABLE B

| Policy Limit (\$,000) | State Group Basic Limit Loss Weight | Current Increased Limit Factor | Indicated Increased Limit Factor | Indicated Percent Change |
|-----------------------|-------------------------------------|--------------------------------|----------------------------------|--------------------------|
| 100 | 0.0047 | 1.00 | 1.00 | 0.0% |
| 200 | 0.0000 | 1.18 | 1.17 | -0.8% |
| 250 | 0.0000 | 1.24 | 1.22 | -1.6% |
| 300 | 0.0188 | 1.29 | 1.27 | -1.6% |
| 500 | 0.0545 | 1.45 | 1.42 | -2.1% |
| 750 | 0.0002 | 1.58 | 1.54 | -2.5% |
| 1,000 | 0.8387 | 1.68 | 1.63 | -3.0% |
| 1,500 | 0.0006 | 1.83 | 1.78 | -2.7% |
| 2,000 | 0.0699 | 1.94 | 1.87 | -3.6% |
| 3,000 | 0.0008 | 2.09 | 2.01 | -3.8% |
| 5,000 | 0.0102 | 2.28 | 2.18 | -4.4% |
| <u>10,000</u> | <u>0.0016</u> | <u>2.55</u> | <u>2.43</u> | <u>-4.7%</u> |
| TOTAL | 1.0000 | 1.683 | 1.633 | -3.0% |

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INCREASED LIMIT FACTORS
GENERAL LIABILITY

CALCULATION OF INDICATED CHANGES BY LIMIT
PRODUCTS/COMPLETED OPERATIONS LIABILITY

TABLE C

| Policy Limit (\$,000) | State Group Basic Limit Loss Weight | Current Increased Limit Factor | Indicated Increased Limit Factor | Indicated Percent Change |
|-----------------------------|---|--------------------------------------|--|--------------------------------|
| 100 | 0.0041 | 1.00 | 1.00 | 0.0% |
| 200 | 0.0000 | 1.23 | 1.21 | -1.6% |
| 250 | 0.0000 | 1.32 | 1.29 | -2.3% |
| 300 | 0.0190 | 1.39 | 1.36 | -2.2% |
| 500 | 0.0630 | 1.63 | 1.57 | -3.7% |
| 750 | 0.0002 | 1.84 | 1.76 | -4.3% |
| 1,000 | 0.8217 | 2.00 | 1.90 | -5.0% |
| 1,500 | 0.0008 | 2.23 | 2.09 | -6.3% |
| 2,000 | 0.0565 | 2.40 | 2.23 | -7.1% |
| 3,000 | 0.0115 | 2.63 | 2.41 | -8.4% |
| 5,000 | 0.0179 | 2.92 | 2.64 | -9.6% |
| <u>10,000</u> | <u>0.0053</u> | <u>3.35</u> | <u>2.99</u> | <u>-10.7%</u> |
| TOTAL | 1.0000 | 2.015 | 1.909 | -5.3% |

SUMMARY

| Table | Basic Limit Loss Weight | Current Average Increased Limit Factor | Indicated Average Increased Limit Factor | Indicated Percent Change |
|----------------|----------------------------|---|---|--------------------------------|
| Table A | 0.1517 | 1.438 | 1.477 | 2.7% |
| Table B | 0.5213 | 1.683 | 1.633 | -3.0% |
| <u>Table C</u> | <u>0.3270</u> | <u>2.015</u> | <u>1.909</u> | <u>-5.3%</u> |
| TOTAL | 1.0000 | 1.754 | 1.700 | -3.1% |

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